APPENDIX E – COMPREHENSIVE SITE INVESTIGATION REPORT AND REMEDIAL OBJECTIVES REPORT (CSIR/ROR), BRECHEISEN ENGINEERING, INC., JULY 23, 2019

Comprehensive Site Investigation Report,
and Remedial Objectives Report

Resilient Corridor
Fifth Avenue Eco Orchard – South
3001-11 West Fifth Avenue
Chicago, Illinois 60612

Brecheisen Engineering, Inc.

Environmental Consulting & Engineering

Comprehensive Site Investigation Report, and Remedial Objectives Report

Resilient Corridor Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Parcel Index Numbers:

16-13-115-010
16-13-115-011

Prepared for:
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EXECUTIVE SUMMARY

Project Overview

Brecheisen Engineering, Inc. (BEI) was retained by the City of Chicago Department of Fleet and Facility Management (2FM) to conduct a Comprehensive Site Investigation (CSI) on a tract of real estate located at 3001-11 West Fifth Avenue in Chicago, Illinois (the Site). The performance of the CSI was necessary to characterize and delineate the full nature and extent of potential impacts related to recognized environmental conditions (RECs) identified during the completion of a Phase I Environmental Site Assessment (ESA) for the Site. The CSI was intended to characterize potential impacts related to the RECs through the advancement of soil borings, the installation of monitoring wells, and the laboratory analyses of soil and groundwater. Soil borings were intended to characterize both the surficial fill materials and the native subsurface soils at the Site.

The overarching purpose of the CSI is to obtain a Comprehensive No Further Remediation Letter (NFR Letter) through the Illinois Environmental Protection Agency's (IEPA) voluntary Site Remediation Program (SRP) for the Site as it is redeveloped from its current vacant status into a public park and stormwater detention area as part of the Resilient Corridors Stormwater Landscape Program. This report describes the methods and results of the CSI. This report further identifies the appropriate remediation objectives for the Site based on its future use as a public park. This report is intended to serve as the *Comprehensive Site Investigation Report and Remedial Objectives Report* (CSIR/ROR) pursuant to Sections 740.425 and 740.445. Copies of the IEPA's SRP enrollment forms have been included in Appendix A.

Site Description

The Site is located near the southwest corner of the intersection of West Fifth Avenue and South Sacramento Boulevard in Chicago, Illinois. The Site is located in the southeast ¼ of the northwest ¼ of the northwest ¼ of Section 13, Township 39 North, Range 13 East of the Third Principal Meridian in Cook County. The Site has been shown relative to surrounding geographical features on the Site Location Map included as Figure 1.

The Site is zoned "C1-2" for commercial use. The Site is vacant and no structures exist. The Site consists of two (2) continuous parcels comprising approximately 0.27-acres (11,617 square feet) and includes the following Parcel Index Numbers (PINs):

- 16-13-115-010
- 16-13-115-011

A Plat of Survey has been included in Appendix B.

Based on a review of historical aerial photographs and Sanborn maps, the Site was historically utilized for mixed commercial and residential purposes from at least 1896 to at least 1975 and has been vacant since at least 1988. According to historical Sanborn Maps and City Directories, the Site was used for residential and commercial purposes including a pharmacy, drug store, barber, grocery store and electrical contractor. Records obtained from the Chicago Fire Department produced a September 25, 1940 permit for a 1,000-gallon fuel oil tank to be used for heating by Falston Electric Contractors at 3001 W. Fifth Avenue.

Recognized Environmental Conditions from Phase I ESA

The Phase I ESA was completed on May 7, 2019 by BEI. The Phase I ESA identified the following RECs for the Site:

- *The documented existence of one (1) 1,000-gallon fuel oil UST on-Site at 3001 W. Fifth Ave., the lack of documentation pertaining to its status, integrity or removal, and the potential use, generation and handling of hazardous substances and / or petroleum products;*

- *The potential presence of unknown underground storage tanks (USTs) on-Site, the lack of documentation pertaining to their status, integrity or removal, and the potential use, generation, and handling of petroleum products and / or hazardous substances;*

- *Historical building demolition activities throughout the entire Site and the potential for fill materials to have been impacted by demolition debris;*

- *The historical use of the northern neighboring site (3002 W. Fifth Ave.) with respect to the 3001-13 W. Fifth Avenue portion of the Site, as potential drycleaner, the associated use, handling and generation of petroleum products and / or hazardous substances, and the potential for the Site to have been impacted from an off-Site source;*

- *The historical use of the eastern neighboring site (111 S. Sacramento Blvd. / 2967 W. Fifth Ave.) with respect to the 3001-13 W. Fifth Ave. portions of the Site, as a former gasoline filling station, the documented presence of underground storage tanks, the associated use, handling and generation of petroleum products and / or hazardous substances, and the potential for the Site to have been impacted from an off-Site source.*

The RECs have been shown on the Site Features Map, included as Figure 2.

Comprehensive Site Investigation Summary

BEI performed a CSI at the Site located at 3001-11 West Fifth Avenue in Chicago, Illinois. The performance of the CSI was intended to establish the presence or absence of impacts associated with the RECs identified during the completion of a Phase I ESA for the Site. The purpose of the CSI was to characterize and delineate potential impacts associated with the RECs through the advancement of soil borings, the installation of monitoring wells, and the laboratory analyses of soil and groundwater samples.

Soil Investigation

Based on the RECs identified through the completion of a Phase I ESA, ten (10) soil borings were drilled in the areas most likely to have been impacted based on the historical Site operations and the 2FM-approved Sampling and Analysis Plan (SAP). At least two (2) soil samples from each soil boring were analyzed for various combinations of VOCs, SVOCs, PCBs, pesticides, herbicides and RCRA metals. The soil boring locations have been shown relative to the RECs for the Site on Figure 3. Photographs of Site investigation activities have been included in Appendix E. A complete description of field observations has been provided on the Soil Boring Logs included as Appendix F.

No VOCs, PCBs, pesticides or herbicides were detected at levels exceeding the most stringent residential Tier 1 SROs in any of the soil samples analyzed. However, certain SVOCs, and RCRA metals were detected in the Site's surficial (0 - 3 feet below grade) and subsurface soils (3-12 feet below grade) at levels exceeding the most restrictive residential and construction worker Tier 1 SROs for various exposure pathways. All soil samples impacted at levels exceeding the Tier 1 SROs were delineated with a clean soil sample from a deeper depth interval; therefore, the complete horizontal and vertical extent of soil impacts has been delineated.

The estimated extent of impacted soils exceeding the most restrictive Tier 1 SROs has been shown on Figures 5 – 11 for various exposure pathways. Soil analytical results were compared to the residential and construction worker Tier 1 SROs on Tables 1 – 5. Complete copies of the soil analytical reports have been provided in Appendix G.

Groundwater Investigation

Four (4) soil borings were completed as 1-inch diameter PVC temporary monitoring wells in accordance with the site-specific SAP. Groundwater samples were collected from each temporary monitoring well for various combinations of VOCs, SVOCs, PCBs, pesticides, herbicides, and RCRA metals. Temporary monitoring well locations have been shown relative to the RECs for the Site on Figure 3. Temporary monitoring well construction logs have been included in Appendix F. Groundwater analytical results are compared to the Tier 1 GROs for various exposure routes on Tables 6 through 10. Complete copies of the groundwater analytical reports have been provided in Appendix H.

Temporary monitoring well top-of-casing elevations were surveyed and groundwater elevations were measured using a Solinst™ electronic water level meter in order to determine the regional groundwater flow direction beneath the Site. Triangulating between TMW-1, TMW-2 and TMW-4, regional groundwater flow direction was determined to be northeasterly. A groundwater contour map illustrating groundwater flow direction has been provided as Figure 4.

No VOCs, SVOCs, PCBs, pesticides, TAL Inorganics or herbicides were detected at levels exceeding the Tier 1 GROs for Class II groundwater ingestion; therefore, this exposure route can be eliminated from further consideration. Groundwater analytical results were also compared to the Tier 1 GROs for the indoor inhalation exposure route. No structures are intended in the redevelopment of the Remediation Site. However, the indoor inhalation exposure route has been evaluated for potential future reuse of the Site. Groundwater sample analytical results were compared to the groundwater remediation objectives for indoor air inhalation specified in Table H of Appendix B in 35 IAC 742. None of the targeted analytes exceeded the Tier 1 GROs for the indoor air inhalation exposure pathway; therefore, this exposure route can be eliminated from further consideration.

Comprehensive Site Investigation Completion

The nature and extent of soil and groundwater impacts has been adequately characterized and delineated. Additional characterization of the Site's soil and groundwater is not warranted. Based on the confirmed presence of surficial soil impacts at levels exceeding the most restrictive residential and construction worker Tier 1 SROs for various exposure pathways, and considering the Site's conversion into a public park, soil excavation and disposal coupled with engineered barriers (if necessary) and institutional controls (as needed) will be needed to mitigate human exposure to the impacted media.

Remedial Objectives Report Summary

Based on the redevelopment of the Site as a public park and stormwater detention area, the residential and construction worker Tier 1 SROs and GROs are appropriate for the Remediation Site. With respect to the Tier 1 SROs and GROs for the Site, the remediation objectives for Class II groundwater are appropriate given that the groundwater beneath the Site does not meet the definition of a Class I Potable Resource Groundwater as described in 35 IAC 620.210.

Based on the results of the Exposure Route Evaluation and the Class II Groundwater Demonstration presented in the Remedial Objectives Report, the following exposure pathways remain relevant for the Site:

- Residential Soil Ingestion
- Construction Worker Ingestion
- Construction Worker Inhalation

- Soil Migration to Groundwater (Class II)

Each relevant exposure pathway is briefly in the following subsections.

Residential Soil Ingestion
The residential soil ingestion exposure pathway may be eliminated through the excavation and disposal of three (3) feet of impacted fill material and the construction of an engineered barrier of clean fill with a minimum thickness of three (3) feet. Additional engineered barriers include 18-inches of clean fill material coupled with a nonwoven geotextile and impermeable concrete pavement.

Construction Worker Soil Ingestion
Institutional controls in the form of a construction worker caution zone (CWCZ) may be applied to the Remediation Site. The institutional control requiring the CWCZ at the Site will be the Comprehensive NFR Letter. If the impacted soil materials are removed from the Remediation Site, a CWCZ may not be necessary.

Construction Worker Soil Inhalation
Institutional controls in the form of a construction worker caution zone (CWCZ) may be applied to the Remediation Site. The institutional control requiring the CWCZ at the Site will be the Comprehensive NFR Letter. If the impacted soil materials are removed from the Remediation Site, a CWCZ may not be necessary.

Soil Component of Class II Groundwater Ingestion
The groundwater ingestion route may be excluded in accordance with 35 IAC 742.320 by invoking institutional controls in the form of either the City of Chicago Ordinance and the associated Memorandum of Understanding with the IEPA, or a site-specific groundwater use restriction. Groundwater fate and transport modeling may be required to determine whether any future groundwater impacts are predicted to migrate off-site.

The Site redevelopment plan is still being finalized; as a result, the *Remedial Action Plan* will be submitted subsequently under separate cover. This report is intended to serve as the CSIR/ROR pursuant to Sections 740.425 and 740.445.

1.0 INTRODUCTION

1.1 Project Overview

Brecheisen Engineering, Inc. (BEI) was retained by the City of Chicago Department of Fleet and Facility Management (2FM) to conduct a Comprehensive Site Investigation (CSI) on a tract of real estate located at 3001-11 West Fifth Avenue in Chicago, Illinois (the Site). The performance of the CSI was necessary to characterize and delineate the full nature and extent of potential impacts related to recognized environmental conditions (RECs) identified during the completion of a Phase I Environmental Site Assessment (ESA) for the Site. The CSI was intended to characterize potential impacts related to the RECs through the advancement of soil borings, the installation of monitoring wells, and the laboratory analyses of soil and groundwater. Soil borings were intended to characterize both the surficial fill materials and the native subsurface soils at the Site.

The overarching purpose of the CSI is to obtain a Comprehensive No Further Remediation Letter (NFR Letter) through the Illinois Environmental Protection Agency's (IEPA) voluntary Site Remediation Program (SRP) for the Site as it is redeveloped from its current vacant status into a public park and stormwater detention area as part of the Resilient Corridors Stormwater Landscape Program. This report describes the methods and results of the CSI. This report further identifies the appropriate remediation objectives for the Site based on its future use as a public park. This report is intended to serve as the *Comprehensive Site Investigation Report and Remedial Objectives Report* (CSIR/ROR) pursuant to Sections 740.425 and 740.445. Copies of the IEPA's SRP enrollment forms have been included in Appendix A.

1.2 Site Location

The Site is located near the southwest corner of the intersection of West Fifth Avenue and South Sacramento Boulevard in Chicago, Illinois. The Site is located in the southeast ¼ of the northwest ¼ of the northwest ¼ of Section 13, Township 39 North, Range 13 East of the Third Principal Meridian in Cook County. The Site has been shown relative to surrounding geographical features on the Site Location Map included as Figure 1.

1.3 Site Description

The Site is zoned "C1-2" for commercial use. The Site is vacant and no structures exist. The Site consists of two (2) continuous parcels comprising approximately 0.27-acres (11,617 square feet) and includes the following Parcel Index Numbers (PINs):

- 16-13-115-010
- 16-13-115-011

A Plat of Survey depicting the Remediation Site has been included in Appendix B.

Adjacent and neighboring sites have been described as follows:

North: North of the Site is W. Fifth Ave. beyond which is residential development.

South: South of the Site is a public alleyway beyond which is residential development.

East: East of the Site is S. Sacramento Blvd. beyond which is mixed residential and commercial development.

West: West of the Site is mixed residential and commercial development.

1.4 Recognized Environmental Conditions

The Phase I ESA was completed on May 7, 2019 by BEI. The Phase I ESA identified the following RECs for the Site:

- *The documented existence of one (1) 1,000-gallon fuel oil UST on-Site at 3001 W. Fifth Ave., the lack of documentation pertaining to its status, integrity or removal, and the potential use, generation and handling of hazardous substances and / or petroleum products;*

- *The potential presence of unknown underground storage tanks (USTs) on-Site, the lack of documentation pertaining to their status, integrity or removal, and the potential use, generation, and handling of petroleum products and / or hazardous substances;*

- *Historical building demolition activities throughout the entire Site and the potential for fill materials to have been impacted by demolition debris;*

- *The historical use of the northern neighboring site (3002 W. Fifth Ave.) with respect to the 3001-13 W. Fifth Avenue portion of the Site, as potential drycleaner, the associated use, handling and generation of petroleum products and / or hazardous substances, and the potential for the Site to have been impacted from an off-Site source;*

- *The historical use of the eastern neighboring site (111 S. Sacramento Blvd. / 2967 W. Fifth Ave.) with respect to the 3001-13 W. Fifth Ave. portions of the Site, as a former gasoline filling station, the documented presence of underground storage tanks, the associated use, handling and generation of petroleum products and / or hazardous substances, and the potential for the Site to have been impacted from an off-Site source.*

The RECs have been shown on the Site Features Map, included as Figure 2.

1.5 Specific Tasks Undertaken

The CSI consisted of the following elements.

1.5.1 Site-Specific Sampling and Analysis Plan

Based on the nature and locations of the RECs described in Section 1.4, BEI proposed a site-specific Sampling and Analysis Plan (SAP) to 2FM for review and approval. Upon 2FM approval of the SAP, BEI performed the CSI.

1.5.2 Electromagnetic / Ground Penetrating Radar Survey

An electromagnetic (EM) and ground penetrating radar (GPR) survey was conducted in an effort to locate the presence of unknown USTs and remnant concrete foundations at the Site.

1.5.3 Soil Investigation

Ten (10) soil borings were drilled in the areas most likely to have been impacted by the RECs identified for the Site. At least two (2) soil samples from each soil boring were analyzed for various combinations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PNAs), polychlorinated biphenyls (PCBs), pesticides, herbicides, Total Analyte List (TAL) inorganics, Resource Conservation and Recovery Act (RCRA) metals/pH and fraction of organic carbon (f_{oc}).

1.5.4 Groundwater Investigation

Four (4) soil borings were completed as 1-inch diameter temporary PVC monitoring wells in the areas most likely to have been impacted from the RECs identified for the Site. Groundwater samples were collected from each temporary monitoring well for various combinations of VOCs, SVOCs, PNAs, PCBs, pesticides, herbicides, TAL inorganics and RCRA metals. In addition, temporary monitoring well top-of-casing elevations were surveyed and groundwater elevations were measured in order to determine the direction of groundwater flow beneath the Site.

1.5.5 CSIR/ROR Preparation

This CSIR/ROR presents the methods and results of the field sampling activities, including a comparison of the laboratory analytical results to the applicable TACO Tier 1 Remediation Objectives. The CSIR/ROR includes an Endangerment Assessment to identify the relevant exposure routes and establishes the appropriate Tier 1 remediation objectives for the Site.

1.6 Limitations and Exceptions

The western adjacent parcel located at 3013 West Fifth Avenue is in the process of being acquired by the City. When this parcel is acquired, it will be included as part of the Remediation Site.

2.0 SITE CHARACTERIZATION

2.1 Documents and Sources Reviewed

This CSIR/ROR was based upon the *Phase I ESA* completed by BEI and issued on May 7, 2019. BEI also referred to Illinois Administrative Code (IAC) Title 35 Part 740, *Site Remediation Program,* Part 742, *Tiered Approach to Corrective Action Objectives* (TACO), and the IEPA-published "Chemicals Not in TACO" Tier I Tables. In addition, BEI reviewed the Illinois State Geological Survey (ISGS) *Circular 460* and *Circular 532.*

2.2 Site History

Based on a review of historical aerial photographs and Sanborn maps, the Site was historically utilized for mixed commercial and residential purposes from at least 1896 to at least 1975 and has been vacant since at least 1988. According to historical Sanborn Maps and City Directories, the Site was used for residential and commercial purposes including a pharmacy, drug store, barber, grocery store and electrical contractor. Records obtained from the Chicago Fire Department produced a September 25, 1940 permit for a 1,000-gallon fuel oil tank to be used for heating by Falston Electric Contractors at 3001 W. Fifth Avenue.

2.3 Physical Setting

2.3.1 Site Topography

Based on the 1997 United States Geological Survey (USGS) Chicago Loop Quadrangle Map, the elevation of the Site was approximately 600 feet above mean sea level. The topography of the Site was relatively flat with elevations increasing gradually with distance to the west.

2.3.2 Site Geology/Hydrogeology

Based on the Illinois State Geological Survey (ISGS) *Circular 460*, the Site was situated on the Carmi Member of the Equality Formation. The Carmi Member of the Equality Formation was described as "largely quiet-water lake sediments; dominantly well bedded silt, locally laminated and containing thin beds of clay; local lenses of sand and sandy gravel along beaches."

In addition, according to Plate 1 of the ISGS *Circular 532* (Berg Circular), the Site was situated on soils with a geological classification of "E." Type E geology was described as uniform, relatively impermeable silty or clayey till at least 50-feet thick with no evidence of interbedded sand and gravel. The potential for contamination within Type E geology is low because of the low hydraulic conductivities and good attenuation capacities. Hydraulic conductivities for Type E geology are estimated to range from 10^{-9} – 10^{-7} cm/s.

2.3.3 Surface Water Bodies

According to the 1997 USGS Chicago Loop Quadrangle Map, the closest surface water body was a pond in Garfield Park, located approximately 0.45-miles northwest of the Site. The North Branch of the Chicago River was approximately 3.4-miles east of the Site.

2.3.4 Wetlands

Based on the standard environmental database from the Phase I ESA, no wetlands were identified at the Site or at any adjacent or neighboring sites. Wetlands were identified in Garfield Park, approximately 0.45 miles northwest of the Site, and in Douglas Park, approximately 1-mile south of the Site.

2.3.5 Flooding

Based on the results of the Phase I ESA, neither the Site nor any surrounding sites were located within the 100-year (or the 500-year) floodplain.

2.4 Water Supply Well Survey

BEI performed a potable water supply well survey to locate any potable water wells within a 2,500-foot radius of the Site. The IEPA's Division of Public Water Supplies was contacted to identify community water supply wells, regulated recharge areas, and wellhead protection areas. The IEPA did not produce records of any community water supply wells within a 2,500-foot radius of the Site. In addition, using the IEPA's source water assessment protection program ArcIMS mapping tool, the nearest non-community public water supply well (API No. 120310174400) was located approximately 3,700-feet southeast of the Site and drilled to a depth of 1,615 feet.

BEI contacted the Illinois Department of Public Health (IDPH), the Illinois State Geological Survey (ISGS) and the Illinois State Water Survey (ISWS) to identify potable water supply wells other than community water supply wells. No non-community public water supply wells were identified within a 2,500-foot radius of the Site. However, the ISWS provided additional data on non-community supply wells located outside a 2,500-foot radius of the Site, including the nearest non-community supply well. According to ISWS records, this 1,615-foot deep well was completed for the Haywood Brothers in 1899; however, by 1930 the "well had not been in use for at least the past five (5) years" and that a cement floor had been laid over the well.

Finally, BEI contacted the City of Chicago to identify any properties that receive potable water from a community water supply wells, non-community public water supply wells and private water supply wells. The City of Chicago records identified two (2) wells approximately 4,400-feet northwest of the Site. According to ISWS records, these wells were drilled for Bunte Bros. and Bunte Candy to respective depths of 1,959-feet and 1,951-feet, respectively. City of Chicago records indicated that of the twenty-nine (29) non-community

water supply wells located in Cook County, are all located within the Cook County Forest Preserves; fact sheet information for those wells showed that they are monitored and tested to ensure the water quality meets drinking water standards.

Documentation of the water supply well survey has been included in Appendix C.

3.0 COMPREHENSIVE SITE INVESTIGATION

3.1 Site-Specific Sampling Plan

In order to investigate the RECs identified in the Phase I ESA, BEI prepared a site-specific SAP. The SAP involved the performance of an EM/GPR survey in an effort to locate historic gasoline tanks at the Site followed by the completion of ten (10) soil borings and four (4) one-inch diameter temporary monitoring wells to assess the potential impacts to soil and groundwater.

3.1.1 Electromagnetic and Ground Penetrating Radar Survey

On December 12, 2018, BEI oversaw the performance of an EM/GPR survey by Subsurface Radar Solutions, LLC, a subcontractor for Earth Solutions, Inc. There was no snow covering the Site during the performance of the EM/GPR survey that would potentially impede the radar penetration. A Geophysical Survey Systems, Inc. (GSSI) SIR-3000 unit was used to perform the EM/GPR survey with a 400 MHz antenna, which was able to see to an average depth of 4-5 feet below grade. In addition, a CST/Berger MT 102 metal detector was used in conjunction with an RD-7000 radio-detection wand to locate ferrous objects to a maximum depth of 10-15 feet below grade. The EM/GPR survey was conducted in an approximate 3-foot grid spacing across the entire Site to ensure complete coverage. One (1) metal anomaly was identified during the EM/GPR survey as shown on Figure 3. The EM/GPR Report is included in Appendix D.

3.1.2 Soil Borings

Ten (10) soil borings were drilled as part of the CSI to characterize potential impacts associated with the Site's RECs. The soil borings characterized both the fill materials and subsurface native materials at the Site. The soil borings were intended to establish the presence or absence of soil impacts associated with the Site's RECs and also to delineate the full nature and extent of any impacted soil. Therefore, sampling locations were chosen in the areas most likely to have been impacted based on the identified RECs. The purpose of each soil boring is summarized on Table 3.1.1.

Table 3.1.1
Soil and Groundwater Sampling and Analysis Plan

REC	PIN	SBs	MWs[a]	Soil	GW	Analyses Performed[b,c]
3001 W. Fifth Ave. Potential 1k fuel oil UST; Potential unknown USTs; Building demolition debris; Northern neighboring former cleaner; Eastern neighboring former filling station.	16-13-115-011	7	3	14	3	Target Compound List (TCL), Herbicides, VOCs, PNAs, RCRA Metals/pH
3011 W. Fifth Ave. Potential unknown USTs; Building demolition debris; Northern neighboring former cleaner.	16-13-115-010	3	1	6	1	Target Compound List (TCL), Herbicides, VOCs, PNAs, RCRA Metals/pH

[a]Final locations to be based upon EM/GPR survey, site topography and utility locations.

[b]Final monitoring well locations will be determined based on field observations of contamination / hydrogeology.

[c]Selected samples will be analyzed based on field observations of contamination.

On December 13, 2018, BEI oversaw the advancement of soil borings SB-1 through SB-10 at the Site. All soil borings were advanced to a terminal depth of 15-feet. Subsurface penetration was achieved using a track-mounted Geoprobe using standard dual-tube sampling techniques. Soil samples were retrieved from each depth interval in sterile PVC liners. Soil samples were collected continuously at 3-foot intervals and classified by BEI using the United Soil Classification System (USCS). Geoprobe drill rods and sampling barrels were decontaminated between soil borings. Photographs of Site Investigation activities have been included in Appendix E. A complete description of field observations has been provided on the Soil Boring Logs in Appendix F. The soil boring locations have been shown on Figure 3.

Soil samples were transferred directly from the geoprobe liner sleeve into the laboratory-provided sample containers using dedicated latex gloves for each sample interval, labeled, designated for potential analysis, and placed in a cooler on ice to maintain a temperature of 4^{o}C. A duplicate portion of sampled soil was sealed in a pre-labeled plastic bag and set aside to be field screened. Soil samples from each depth interval were classified according to their predominant geological characteristics. After a sufficient time had elapsed to allow the soil vapors to equilibrate with the air in the sample bags, the sealed soil vapors were field screened using a photo-ionization detector (PID). All soil samples were labeled and maintained at 4^{o}C until they were transferred to an Illinois-accredited laboratory under the appropriate chain-of-custody procedures.

3.1.3 Temporary Monitoring Wells

Four (4) soil borings were completed as 1-inch diameter PVC temporary monitoring wells. The temporary monitoring well locations have been shown on Figure 3. The purpose of each temporary monitoring well was summarized on Table 3.1.1. The temporary monitoring wells were intended to establish the presence or absence of groundwater impacts associated with the RECs illustrated on Figure 2. The temporary monitoring well locations were intended to assess the areas most likely to have been impacted.

On December 12, 2018, soil borings SB-2, SB-5, SB-6 and SB-8 were completed as temporary monitoring wells TMW-1, TMW-2, TMW-3 and TMW-4, respectively. Temporary monitoring wells were constructed of 1-inch diameter Schedule 40 PVC materials and included a screen with 0.010-inch slotted openings. Based on site-specific hydrogeology, the screened intervals were constructed from approximately 5 – 15 feet below grade for all temporary monitoring wells. The temporary monitoring well construction logs have been provided in Appendix F.

Upon completion of temporary monitoring well installation activities, top-of-casing elevations were surveyed relative to an arbitrarily assigned datum of 100.00-feet. Temporary monitoring wells were developed by purging groundwater from each well using a peristaltic pump and dedicated PVC tubing. Groundwater was purged until a minimum of three (3) well volumes were removed.

After sufficient time had elapsed to allow groundwater levels to equilibrate, on December 19, 2018, BEI collected groundwater elevation data using a Solinst™ electronic water level meter. The water level meter was decontaminated after its use in each well using an Alconox™ solution and distilled rinse-water. Based on the top-of-casing elevations and the depth-to-water measurements, groundwater elevations beneath the Site were calculated and have been summarized on the following table.

Table 3.1.2
Groundwater Elevation Summary (December 19, 2018)

Monitoring Well ID	TMW-1	TMW-2	TMW-3	TMW-4
Top-of-Casing Elevation (ft)	100.26	100.18	100.88	100.55
Depth-to-Groundwater (ft)	7.57	6.73	10.99	7.52
Groundwater Elevation (ft)	92.69	93.45	89.89	93.03

Triangulating between temporary monitoring wells TMW-1, TMW-2 and TMW-4, regional groundwater flow direction appears to be northeasterly. A Groundwater Contour Map depicting the groundwater flow direction has been provided as Figure 4.

On December 17th, 20th, 27th and 28th of 2018, BEI collected groundwater samples using dedicated disposable bailers. After a minimum of three well volumes were purged from each temporary monitoring well, groundwater was transferred directly from the temporary

monitoring wells into the laboratory-provided sample containers. All groundwater samples were labeled and placed in a cooler on ice to maintain the required temperature of 4°C until they were transferred to an Illinois-accredited laboratory under standard chain-of-custody procedures.

3.1.4 Soil Sample Selection

The analyses performed and the associated rationale for each soil sample has been summarized on the following table.

Table 3.1.3
Soil Sample Selection Rationale

Boring ID	Analyses Performed				Rationale
	Shallow	Depth (ft)	Deep	Depth (ft)	
SB-1	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals Chromium	3-6 6-9	Historical building demolition debris; Potential unknown USTs; Eastern neighboring filling station; Northern neighboring cleaners; Vertical definition of impacts.
SB-2	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals PNAs, Lead, Mercury	3-6 6-9	Metal anomaly; Historical building demolition debris; Potential unknown USTs; Vertical definition of impacts.
SB-3	BETX	0-3	BETX, PNAs, RCRA Metals Chromium	3-6 6-9 9-12	Potential 1,000-gal fuel oil UST; Historical building demolition debris; Potential unknown USTs; Eastern neighboring filling station; Vertical definition of impacts.
SB-4	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals PNAs, Lead	3-6 6-9	Historical building demolition debris; Potential unknown USTs; Eastern neighboring filling station; Vertical definition of impacts.
SB-5	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals	6-9	Historical building demolition debris; Potential unknown USTs.
SB-6	VOCs, SVOCs, PCBs/Pesticides, TAL Inorganics, Herbicides	0-3	VOCs, SVOCs, PCBs/Pesticides, TAL Inorganics, Herbicides PNAs, Lead, Mercury, Selenium	3-6 6-9	Historical building demolition debris; Potential unknown USTs; Vertical definition of impacts.
SB-7	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals Arsenic	6-9 9-12	Historical building demolition debris; Potential unknown USTs; Northern neighboring cleaners; Vertical definition of impacts.
SB-8	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals Lead, Mercury	6-9 9-12 12-15	Historical building demolition debris; Potential unknown USTs; Vertical definition of impacts.
SB-9	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals Arsenic	3-6 6-9	Historical building demolition debris; Potential unknown USTs; Vertical definition of impacts.

Boring ID	Analyses Performed				Rationale
	Shallow	Depth (ft)	Deep	Depth (ft)	
SB-10	BETX, PNAs, RCRA Metals	0-3	BETX, PNAs, RCRA Metals PNAs, Mercury	3-6 6-9	Historical building demolition debris; Potential unknown USTs; Vertical definition of impacts.

At least two (2) soil samples were submitted from each soil boring for laboratory analyses of the targeted analytes. One (1) shallow soil sample was collected from the surficial soils (0 to 3 feet bsg) and at least one (1) deeper soil sample was collected from the soil horizon potentially impacted based on field observations and PID readings. If no potential impacts were observed, the soil sample just above the soil-groundwater interface was collected for analysis.

Two (2) soil samples (one shallow and one deep) were submitted for laboratory analyses of the constituent lists specified in 35 IAC 740, Appendix A (VOCs, SVOCs, Pesticides/PCBs and TAL Inorganics), and herbicides. Twenty-two (22) soil samples were analyzed for PNAs, eighteen (18) soil samples were analyzed for BETX and RCRA (8) metals/pH, six (6) soil samples were analyzed for total lead, five (5) soil samples were analyzed for mercury, two (2) soil samples were analyzed for arsenic, and two (2) soil samples were analyzed for chromium. Three (3) soil samples were analyzed for fraction organic carbon (f_{oc}), and three (3) soil samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) lead in order to determine whether the soil at the Site exhibited hazardous toxicity characteristics. One (1) undisturbed soil sample was also analyzed to determine the site-specific hydraulic conductivity (K).

3.1.5 Groundwater Sample Selection

The analyses performed and the associated rationale for the groundwater sample selection has been summarized on the following table.

Table 3.1.4
Groundwater Sample Selection Rationale

Well ID	Analyses Performed	Rationale
TMW-1	BETX, PNAs, RCRA Metals	Metal anomaly; Historical building demolition debris; Potential unknown USTs.
TMW-2	BETX, PNAs, RCRA Metals	Historical building demolition debris; Potential unknown USTs.
TMW-3	VOCs, SVOCs, PCBs/Pesticides, TAL Inorganics, Herbicides	Historical building demolition debris; Potential unknown USTs.
TMW-4	BETX, PNAs, RCRA Metals	Historical building demolition debris; Potential unknown USTs.

One (1) groundwater sample was submitted for laboratory analyses of the constituent lists specified in 35 IAC 740, Appendix A (VOCs, SVOCs, Pesticides/PCBs and TAL inorganics), and herbicides. Three (3) groundwater samples were analyzed for a reduced list of BETX, PNAs, and RCRA (8) metals.

3.2 Analytical Results

The Site has been slated for redevelopment as a public park and a stormwater detention area. Therefore, the remedial objectives for construction workers and residential land use are applicable to the Site.

3.2.1 Soil Tier 1 Evaluation

Soil analytical results were compared to the residential Tier 1 Soil Remediation Objectives (Tier 1 SROs) published in 35 IAC 742 (TACO), including the use of the background levels of PNAs specified in the Chicago Background PNA Study. Soil analytical results were also compared to the construction worker Tier 1 SROs in consideration of future redevelopment activities. The Tier 1 SROs represent acceptable baseline contaminant concentrations that are based on a conservative exposure scenario.

No VOCs, PCBs, pesticides or herbicides were detected at levels exceeding the most restrictive Tier 1 SROs in any of the soil samples analyzed. However, certain SVOCs and RCRA metals were detected at levels exceeding the most stringent Tier 1 SROs for various exposure pathways. Soil analytical results have been summarized on Tables 1 through 5. The complete soil laboratory analytical report has been included in Appendix G. Tier 1 exceedances for each exposure pathway have been discussed individually in the following subsections.

Residential Soil Ingestion Exceedances

No VOCs, BETX compounds, PCBs, pesticides or herbicides were detected at levels exceeding the residential Tier 1 SROs for the soil ingestion exposure pathway. However, certain SVOCs and RCRA metals were detected at levels exceeding the Tier 1 SROs for the soil ingestion exposure pathway at the locations summarized on the following table.

Table 3.2.1
Residential Soil Ingestion Exceedances

Boring ID	Sample Depth (ft)	Contaminant(s)
SB-1	0-3	Lead
SB-2	3-6	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene Lead

Boring ID	Sample Depth (ft)	Contaminant(s)
SB-4	0-3	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene Arsenic Lead
SB-4	3-6	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene
SB-4	6-9	Dibenzo(a,h)anthracene
SB-5	0-3	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene
SB-6	0-3	Dibenzo(a,h)anthracene
SB-6	3-6	Dibenzo(a,h)anthracene Lead
SB-7	0-3	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene
SB-7	6-9	Arsenic
SB-8	6-9	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene
SB-8	9-12	Dibenzo(a,h)anthracene
SB-9	0-3	Benzo(a)anthracene Benzo(a)pyrene Dibenzo(a,h)anthracene Arsenic Lead
SB-9	3-6	Arsenic
SB-10	0-3	Benzo(a)anthracene Benzo(a)pyrene Dibenzo(a,h)anthracene Lead
SB-10	3-6	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Lead

The estimated extent of impacted soils exceeding the Tier 1 SROs for the residential soil ingestion exposure pathway has been shown on Figures 5A and 5B for surficial soils (0-3 feet below grade) and subsurface soils (3-15 feet below grade), respectively. Each soil sample listed above was delineated vertically by a deeper soil sample from below the impacted depth interval that met the Tier 1 SRO for the residential soil ingestion pathway.

Residential Soil Inhalation Exceedances

No VOCs, SVOCs, PCBs, pesticides, herbicides, or TAL inorganics were detected in the Site's soils at levels exceeding the Tier 1 SROs for the residential soil inhalation exposure pathway. Thus, there were no residential inhalation exceedances in any of the soil samples analyzed and this exposure pathway may be eliminated from further consideration.

Construction Worker Ingestion and Inhalation Exceedances

No VOCs, SVOCs, PCBs, pesticides, or herbicides were detected in the Site's soils at levels exceeding the construction worker Tier 1 SROs for the soil ingestion and soil inhalation exposure pathways. However, lead, mercury and naphthalene were detected at levels exceeding the construction worker Tier 1 SROs for the soil ingestion and soil inhalation exposure pathways at the sampling locations summarized on the following table.

Table 3.2.2
Construction Worker Exceedances

Boring ID	**Sample Depth (ft)**	**Contaminant(s)**	**Pathway Exceeded**
SB-1	0-3	Lead Mercury	Ingestion Inhalation
SB-2	3-6	Mercury	Inhalation
SB-3	3-6	Mercury	Inhalation
SB-4	0-3	Benzo(a)pyrene Lead Mercury	Ingestion Ingestion Inhalation
SB-5	0-3	Mercury	Inhalation
SB-6	3-6	Mercury	Inhalation
SB-7	0-3	Mercury	Inhalation
SB-8	6-9	Mercury	Inhalation
SB-8	9-12	Mercury	Inhalation
SB-9	0-3	Lead Mercury	Ingestion Inhalation
SB-10	0-3	Mercury	Inhalation
SB-10	3-6	Benzo(a)pyrene Naphthalene Lead Mercury	Ingestion Inhalation Ingestion Inhalation

The estimated extent of impacted soils exceeding the construction worker Tier 1 SROs for the soil ingestion and soil inhalation exposure pathways has been shown on Figure 6. Each soil sample listed above was delineated vertically by a deeper soil sample from below the impacted depth interval that met the Tier 1 SRO for the applicable construction worker ingestion or inhalation exposure pathway.

Soil Migration to Groundwater Exceedances

No VOCs, PCBs, pesticides or herbicides were detected in the Site's soils at levels exceeding the Tier 1 SROs for the soil migration to Class I or Class II groundwater exposure pathway. However, certain SVOCs and RCRA metals were detected at levels exceeding the Tier 1 SROs for the soil migration to groundwater exposure pathway at the locations summarized on the following table.

Table 3.2.3
Soil Migration to Groundwater Exceedances

Boring ID	**Sample Depth (ft)**	**Contaminant(s)**	**Class**
SB-1	0-3	Lead Selenium	I & II
SB-1	3-6	Chromium	I
SB-2	3-6	Benzo(a)anthracene Lead	I
SB-3	3-6	Chromium Lead	I
SB-3	6-9	Chromium	I
SB-4	0-3	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene Chromium Lead	I & II
SB-4	3-6	Benzo(a)anthracene Lead	I
SB-5	0-3	Benzo(a)anthracene Benzo(b)fluoranthene Dibenzo(a,h)anthracene Lead	I
SB-6	3-6	Lead	I
SB-7	0-3	Benzo(a)anthracene Chromium Lead	I
SB-8	6-9	Benzo(a)anthracene Lead	I
SB-8	9-12	Lead	I
SB-9	0-3	Lead	I

Boring ID	Sample Depth (ft)	Contaminant(s)	Class
SB-10	0-3	Lead	I
SB-10	3-6	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Indeno(1,2,3-cd)pyrene Lead	I & II

The estimated extent of impacted soils exceeding the Tier 1 SROs for the soil migration to (Class I and II) groundwater exposure pathway has been shown on Figure 7. Each sample listed above was delineated vertically by a deeper soil sample from below the impacted depth interval that met the Tier 1 SRO for the migration to Class I groundwater pathway.

Toxicity Characteristic Leaching Procedure - Lead

The soil samples exhibiting the highest detected level of total lead were designated for TCLP analyses to determine if soil at the Site exhibited hazardous toxicity characteristics. Soil samples SB-1 (0-3), SB-4 (0-3), and SB-10 (3-6) exhibited the highest detected lead concentrations of 1,100 mg/kg, 2,000 mg/kg and 1,300 mg/kg, respectively (Table 5, Appendix G). The respective TCLP lead results from SB-1 (0-3), SB-4 (0-3) and SB-10 (3-6) were 0.41 mg/L, 0.39 mg/L and 0.45 mg/L (Table 5, Appendix G); therefore, the soil at the Site did not exceed the toxicity characteristic threshold value of 5 mg/L for hazardous waste pursuant to 40 CFR 261.

Fraction Organic Carbon

Three (3) soil samples were analyzed for f_{oc} according to ASTM Method D-2974. One (1) sample was analyzed from the surficial (0-3 feet bsg) soil horizon, and two (2) soil samples were analyzed from the subsurface soil horizon (3-6 feet bsg). Soil sample SB-1 (0-3) yielded a surficial f_{oc} value of 6.87% (Appendix G). Soil samples SB-5 (6-9) and SB-9 (3-6) yielded surficial and subsurface f_{oc} values of 1.13% and 1.51%, respectively (Appendix G). These f_{oc} values have been adjusted by a factor of 0.58 according to Section 742, Appendix C, Table F.

Hydraulic Conductivity

In accordance with 35 IAC 742, soil sample SB-9 (12-15) was analyzed for hydraulic conductivity using American Society of Testing and Materials (ASTM) method D-5084. The analytical result indicated that the hydraulic conductivity of the subsurface soil is 2.50 (10^{-8}) cm/s. The laboratory analytical report is included in Appendix G.

3.2.2 Groundwater Tier 1 Evaluation

Groundwater analytical results were compared to the Tier 1 Groundwater Remediation Objectives (Tier 1 GROs) published in 35 IAC 742. The Tier 1 GROs represent acceptable baseline contaminant concentrations based on a conservative exposure scenario. No VOCs, SVOCs, PCBs, pesticides, or herbicides were detected at levels exceeding the most restrictive Tier 1 GROs for Class I groundwater ingestion. However, lead and manganese were detected

in the groundwater beneath the Site at levels exceeding the most stringent Tier 1 GROs. Groundwater analytical results have been summarized on Tables 6 through 10. The complete groundwater laboratory analytical report has been included in Appendix H. Tier 1 exceedances for each exposure pathway have been discussed individually in the following subsections.

Groundwater Ingestion Exceedances

No VOCs, SVOCs, PCBs, pesticides, RCRA metals or herbicides were detected at levels exceeding the Tier 1 GROs for Class II groundwater ingestion; therefore, this exposure route can be eliminated from further consideration. However, lead and manganese were detected at levels exceeding the Tier 1 GROs for Class I groundwater ingestion at the locations summarized on the following table.

Table 3.2.4
Groundwater Ingestion Exceedances

Boring ID	Contaminant(s)	Class
TMW-2	Lead	I
TMW-3	Lead Manganese	I
TMW-4	Lead	I

The estimated extent of groundwater impacts exceeding the Tier 1 GROs for Class I groundwater has been shown on Figure 8.

Indoor Inhalation

No structures are intended in the redevelopment of the Remediation Site. However, the indoor inhalation exposure route has been evaluated for potential future reuse of the Site. Groundwater sample analytical results were compared to the groundwater remediation objectives for indoor air inhalation specified in Table H of Appendix B in 35 IAC 742. None of the targeted analytes exceeded the Tier 1 GROs for the indoor air inhalation exposure pathway; therefore, this exposure route can be eliminated from further consideration.

3.3 Comprehensive Tier 1 Evaluation Summary

In addition to the Tier 1 groundwater summary provided in Table 3.2.4, the results from the Tier 1 soil evaluation have been summarized in the following table:

Table 3.4.1
Comprehensive Tier 1 Soil Evaluation Summary

Sample Location	Tier 1 Exposure Pathway Exceedances for Soil					
	Residential		Construction Worker		Soil Component of Groundwater Ingestion	
	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
SB-1 (0-3)	Lead		Lead	Mercury	Lead, Selenium	Lead, Selenium
SB-1 (3-6)					Chromium	
SB-2 (3-6)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd), Lead			Mercury	B(a)A, Lead	
SB-3 (3-6)				Mercury	Chromium, Lead	
SB-3 (6-9)					Chromium	
SB-4 (0-3)	B(a)A, B(a)P, B(b)F, B(k)F, D(a,h)A, I(1,2,3-cd), Arsenic, Lead		B(a)P, Lead	Mercury	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)P, Chromium, Lead	B(a)A, B(b)F, Lead
SB-4 (3-6)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)				B(a)A, Lead	
SB-4 (6-9)	D(a,h)A					
SB-5 (0-3)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)			Mercury	B(a)A, B(b)F, D(a,h)A, Lead	
SB-6 (0-3)	D(a,h)A					
SB-6 (3-6)	D(a,h)A, Lead			Mercury	Lead,	
SB-7 (0-3)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)			Mercury	B(a)A, Chromium, Lead	
SB-7 (6-9)	Arsenic					
SB-8 (6-9)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)P			Mercury	B(a)A, Lead	
SB-8 (9-12)	D(a,h)A			Mercury	Lead	
SB-9 (0-3)	B(a)A, B(a)P, D(a,h)A, Arsenic, Lead		Lead	Mercury	Lead	
SB-9 (3-6)	Arsenic					
SB-10 (0-3)	B(a)A, B(a)P, D(a,h)A, Lead			Mercury	Lead	
SB-10 (3-6)	B(a)A, B(a)P, B(b)F, B(k)F, D(a,h)A, I(1,2,3-cd)P, Lead		B(a)P, Lead	Naphthalene, Mercury	B(a)A, B(a)P, B(b)F, I(1,2,3-cd)P, Lead	B(a)A, B(b)F, Lead

Notes: B(a)A=Benzo(a)anthracene; B(a)P=Benzo(a)pyrene; B(b)F=Benzo(b)fluoranthene; B(a)K=Benzo(k)fluoranthene; D(a,h)A=Dibenzo(a,h)anthracene; I(1,2,3-cd)P=Indeno(1,2,3-cd)pyrene.

The extent of soil impacts exceeding the Tier 1 SROs is summarized on the geologic cross sections included as Figures 9 and 10.

4.0 ENDANGERMENT ASSESSMENT

4.1 Remedial Objectives

The Site is currently vacant and has been slated for redevelopment as a public park and stormwater detention area. Therefore, the remedial objectives for construction workers and residential land use are applicable to the Site. The background concentrations of PNAs in the City of Chicago set forth in Appendix A (Table H) of 35 IAC 742 were also used as the remediation objectives for the residential soil ingestion exposure route. A comparison of the remaining soil exceedances of the Tier 1 SROs to the Statewide Area Background levels promulgated in Appendix A (Table G) of 35 IAC 742 did not result in a revision to the pathway-specific exceedances of the Tier 1 SROs by the contaminants of concern (Table 3.4.1).

4.2 Recognized Environmental Conditions

The results of the CSI confirmed that the Site's surficial (0-3 feet below grade) and subsurface (3-12 feet below grade) soils were impacted as a result of historical operations conducted at the Site in connection with following REC:

- *Historical building demolition activities on-site and the potential for fill materials to have been impacted from historical demolition activities conducted at the Site*.

None of the other RECs identified in the Phase I ESA (Section 1.4) resulted in impacts to the soil and/or groundwater beneath the Site. No evidence of a historical UST(s) or a release(s) from a former UST system(s) was identified during the CSI. In addition, based on soil and groundwater samples advanced along the Site's northern and eastern property boundaries, there was no evidence of a release(s) of drycleaning solvents migrating beneath the Site from the northern neighboring property and there was no evidence of petroleum hydrocarbons migrating beneath the Site from the eastern neighboring property.

4.3 Contaminants-of-Concern

Based on the results of the Tier 1 Evaluation, the following contaminants-of-concern were identified at the Site:

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)anthracene

- Dibenzo(a,h)anthracene
- Indeno(1,2,3-cd)pyrene
- Naphthalene
- Arsenic
- Chromium
- Lead
- Manganese
- Mercury
- Selenium

4.4 Preliminary Exposure Pathways

Based on the results of the Tier 1 Evaluation, the following exposure pathways are relevant for the Site:

- Residential Soil Ingestion
- Construction Worker Ingestion
- Construction Worker Inhalation
- Soil Migration to Groundwater (Class I & II)
- Groundwater Ingestion (Class I)

The relevant exposure routes are discussed in the following subsections.

4.4.1 Residential Soil Ingestion

The surficial soil depth interval (0-3 feet below grade) beneath the Site was impacted with certain PNAs and RCRA metals above the Tier 1 SROs for residential ingestion in seven (7) of the ten (10) soil borings advanced for the CSI. The subsurface soil depth interval (3-12 feet below grade) was impacted with certain PNAs and RCRA metals at levels exceeding residential soil ingestion in seven (7) of the ten (10) soil borings advanced for the CSI. All surficial and subsurface exceedances of the soil ingestion SROs were delineated vertically with a clean soil sample from a deeper subsurface depth interval. Thus, while the horizontal extent of impacts exceeding the residential soil ingestion Tier 1 SROs spreads largely across the entire Site, the vertical extent of soil impacted at levels exceeding the residential soil ingestion exposure pathway has been defined.

4.4.2 Construction Worker Ingestion and Inhalation

Mercury was detected in the at levels exceeding the construction worker soil inhalation Tier 1 SROs in all ten (10) soil borings advanced for the CSI. Lead was detected at levels exceeding the construction worker soil ingestion Tier 1 SROs in four (4) soil borings advanced for the CSI. Naphthalene were detected in one (1) soil boring at a level exceeding the construction worker soil inhalation Tier 1 SRO while benzo(a)pyrene was detected in one (1) soil boring at a level exceeding the construction worker soil ingestion Tier 1 SRO. All construction worker

exceedances were delineated with a clean soil sample from a deeper depth interval. Thus, while the horizontal extent of impacts exceeding the construction worker Tier 1 SROs spreads largely across the entire Site, the vertical extent has been defined.

4.4.3 Soil Component of Groundwater Ingestion

The surficial and/or subsurface soils beneath the Site was impacted with certain PNAs and RCRA metals at levels above the Tier 1 SROs for soil migration to Class I groundwater in all ten (10) soil borings advanced for the CSI. Surficial and/or subsurface soils were impacted with certain PNAs and RCRA metals at levels exceeding the Tier 1 SROs for the migration to Class II groundwater in five (5) soil borings advance for the CSI. All exceedances of the soil migration to (Class I and II) groundwater Tier 1 SROs were delineated with a clean soil sample from a deeper depth interval. Thus, while the horizontal extent of soil impacts exceeding the Tier 1 SROs for the migration to (Class I and II) groundwater spreads largely across the entire Site, the vertical extent has been defined.

4.4.4 Groundwater Ingestion

Lead was detected in three (3) groundwater samples collected from the Site and manganese was detected in one (1) groundwater sample collected from the Site at levels that exceed the Tier 1 GROs for Class I groundwater ingestion. None of the targeted analytes were detected in any of the groundwater samples at levels exceeding the Tier 1 GROs for Class II groundwater. Considering the likelihood that groundwater beneath the Site would not meet the definition of a Class I Potable Water Source, the Tier 1 GROs for Class II groundwater will be applicable. Furthermore, there are no potential receptors to complete the groundwater ingestion exposure route in light of the City of Chicago Ordinance prohibiting the installation of private wells for potable purposes.

5.0 REMEDIAL OBJECTIVES REPORT

5.1 Introduction

As concluded in the Tier 1 Evaluation, further evaluation of the residential soil ingestion, construction worker ingestion, construction worker inhalation, the soil component of Class I and Class II groundwater ingestion, and the Class I groundwater ingestion exposure routes is required in accordance with 35 IAC 742. The purpose of the endangerment assessment is to demonstrate that groundwater beneath the Site does not meet the definition of Class I Potable Resource Groundwater as described in 35 IAC 620 and to justify the elimination of the soil component of Class I groundwater ingestion exposure pathway. Remaining exposure pathways may be addressed using a combination of soil remediation (conventional excavation and disposal), engineered barriers (if necessary) and institutional controls (as needed).

5.2 Exposure Route Evaluation

Prior to the elimination of the appropriate exposure pathways, the requirements of Sections 742.300 and 742.305 must be met. The following discussion addresses the requirements of Sections 742.300 and 742.305:

- *No exposure route may be excluded from consideration until characterization of the extent and concentrations of contaminants of concern at a site has been determined by the specific program requirements under which the site remediation is being addressed (Section 742.300[b]).*

As described in Sections 3.0 and 4.0 of this report, BEI has adequately characterized the nature and extent of soil and groundwater impacts at the site; therefore, this condition is met.

- *The sum of the concentrations of all organic contaminants of concern shall not exceed the attenuation capacity of the soil as determined under Section 742.215 (Section 742.305[a]);*

The sum of concentration of all organic contaminants does not exceed the attenuation capacity for the site's surficial or subsurface soils. Based on the data presented in Tables 1, 2, 3 and 4, Organic concentrations totaled 330.6 mg/kg for surficial soils (SB-4 [0-3]) and 520.3 mg/kg for subsurface soils (SB-10 [3-6]). When an organic contaminant was not detected, the laboratory detection limit was assumed as the concentration. Based on the f_{oc} analyses, pursuant to Section 742.215(b)(1)(B), the site-specific surficial and subsurface attenuation capacities were 11,300 mg/kg and 15,100 mg/kg, respectively. Therefore, this condition has been satisfied.

- *The concentrations of any organic contaminants of concern remaining in the soil shall not exceed the soil saturation limit as determined under Section 742.220 (Section 742.305[b]);*

None of the targeted analytes exceeded their default soil saturation limits set forth in Appendix A, Table A; therefore, this condition has been satisfied.

- *Any soil which contains contaminants of concern shall not exhibit any of the characteristics of reactivity for hazardous waste as determined under 35 IAC 721.123 (Section 742.305[c]);*

Since the impacted soil was not explicitly analyzed for landfill disposal parameters, reactivity analyses were not performed. However, based on the TCLP analyses of lead at SB-1 (0-3), SB-4 (0-3) and SB-10 (3-6), no characteristically hazardous waste was identified at the site. Therefore, this condition is considered to have been satisfied.

- *Any soil which contains contaminants of concern shall not exhibit a pH less than or equal to 2.0 or greater than or equal to 12.5, as determined by SW-846 Method 9040B: pH Electrometric for soils with 20% or greater aqueous (moisture) content or by SW-846 Method 9045C: Soil pH for soils with less than 20% aqueous (moisture) content as incorporated by reference in Section 742.210 (Section 742.305[d]);*

Table 5 summarized the pH data obtained for the site. Twenty (20) soil samples were analyzed for pH and the values ranged from 7.48 – 8.51. Therefore, the pH of the Site's soil did not exhibit a pH within the range to be considered a hazardous waste and this condition has been satisfied.

- *Any soil which contains contaminants of concern in the following list of inorganic chemicals or their salts shall not exhibit any of the characteristics of toxicity for hazardous waste as determined by 35 IAC 721.124: arsenic, barium, cadmium, chromium, lead, mercury, selenium or silver (Section 742.305[e]);*

Soil samples SB-1 (0-3), SB-4 (0-3) and SB-10 (3-6) were analyzed for TCLP lead based upon total lead concentrations of 1,100 mg/kg, 2,000 mg/kg and 1,300 mg/kg. The corresponding TCLP results for lead were 0.41 mg/L, 0.39 mg/L and 0.45 mg/L, which are all lower than the toxicity characteristic threshold value of 5 mg/L for hazardous waste pursuant to 40 CFR 261. Thus, this condition is met.

- *If contaminants of concern include polychlorinated biphenyls (PCBs) the concentration of any PCBs in the soil shall not exceed 50 parts per million as determined by SW-846 methods (Section 742.305[f]);*

No past use of PCBs was suspected at the Site. In addition, PCBs were not detected in any of the soil samples from the Site that were analyzed for PCBs. PCBs are not a contaminant of concern for the Site and this condition has been satisfied.

- *The concentration of any contaminant of concern in soil gas shall not exceed 10% of its Lower Explosive Limit (LEL) as measured by a hand held combustible gas indicator that has been calibrated to manufacturer specifications (Section 742.305[g]).*

A soil gas survey was not conducted for the Site. However, based on the data presented in Tables 1, 2, 3, 4 and 5, volatile organic compounds are not contaminants of concern for the Site. The contaminants of concern for the site are limited to PNAs and metals, which are not likely to volatilize under standard temperature and pressure conditions. In addition, no elevated PID readings, visual or olfactory evidence of volatile organic contamination was observed. Therefore, this condition is considered to be satisfied.

Based on the results of this Exposure Route Evaluation, the elimination of exposure pathways is allowable at the Site.

5.3 Class II Groundwater Demonstration

As concluded in the Tier 1 Evaluation, certain PNAs and RCRA metals exceeded the most stringent Tier 1 SROs and GROs for the soil component of migration to (Class I and II) groundwater and Class I and II groundwater ingestion exposure pathways. As a result, BEI performed a Class II groundwater demonstration to establish that the groundwater beneath the Site would not meet the definition of Class I Potable Resource Groundwater as described in 35 IAC 620.210. Pursuant to Section 620.210, Class I Potable Resource Groundwater is defined as groundwater located 10-feet or more below the land surface and within:

- *The minimum setback zone of a well which serves as a potable water supply and to the bottom of such well (Section 620.210[a][1]);*

The Site is not within the minimum setback zone of a well that serves as a potable water supply well, and the City of Chicago has an Ordinance prohibiting the installation of water wells for potable use and an associated Memorandum of Understanding with the IEPA. In addition, BEI researched IEPA and Illinois State Water Survey (ISWS) sources for known water well records. The nearest documented well was approximately 3,700-feet southeast of the Site. This well was identified as a private well, which was installed in 1899 to a depth of 1,615-feet and abandoned by 1930.

- *Unconsolidated sand, gravel, or sand and gravel which is 5-feet or more in thickness and that contains 12 percent or less of fines (Section 620.210[a][2]);*

Soil materials encountered during the CSI consisted predominantly of silty clay materials from surface grade to the each soil boring terminus of 15-feet; no unconsolidated sand or gravel materials were encountered beneath the Site. Based on the well log for the 1899 private well, clay materials extended from surface grade to approximately 60-feet below grade where limestone was encountered; therefore, this condition is satisfied.

- *Sandstone which is 10-feet or more in thickness, or fractured carbonate which is 15-feet or more in thickness (Section 620.210[a][3]);*

Soil materials encountered during the CSI consisted predominantly of silty clay materials from surface grade to 15-feet below grade; no sandstone or fractured carbonate materials were encountered beneath the Site.

- *Any geologic material that is capable of a hydraulic conductivity of (10^{-4}) cm/s or greater using a permeameter, slug test or a pump test (Section 620.210[a][4]).*

According to the Illinois State Geological Survey (ISGS) Circular 532 (Berg Circular), the Site was situated on "E" type soil, which was described as uniform, relatively impermeable silty and clayey till greater than 50-feet in thickness, with no evidence of interbedded sand and gravel. The potential for contamination is low because the clay typically has low hydraulic conductivities of 10^{-7} cm/s or lower. Site-specific geology observed during CSI was consistent with descriptions from ISGS publications for "E" classified soil. In addition, soil sample SB-9 (12-15) was analyzed for hydraulic conductivity using ASTM method D-5084. The analytical result indicated that the hydraulic conductivity of the subsurface soil beneath the Site is 2.50 (10^{-8}) cm/s.

Based on the foregoing discussion, and that the perched groundwater beneath the Site is within 10-feet of the land surface, the groundwater beneath the Site does not meet the definition of Class I Potable Resource Groundwater. Therefore, the soil migration to Class I groundwater and the Class I groundwater ingestion exposure pathways can be eliminated from further consideration. The Class II soil and groundwater objectives are the appropriate Tier 1 remediation objectives for the Site. The extent of soil exceedances of Tier 1 SROs for the soil the migration to Class II groundwater exposure route are shown on Figure 11.

Based on the Class II Demonstration, there were no groundwater exceedances of the Tier 1 GROs for Class II groundwater. Therefore, the (Class II) groundwater ingestion exposure pathway can also be eliminated from further consideration. Table 5.1 provides a detailed description of the targeted analytes detected in soil that exceeded the Tier 1 SROs for the relevant remaining exposure pathways.

Table 5.1
Remaining Soil Exceedances of the Tier 1 SROs

Sample Location	Tier 1 Exposure Pathway Exceedances for Soil				
	Residential		Construction Worker		Soil Component of Groundwater Ingestion
	Ingestion	Inhalation	Ingestion	Inhalation	Class II
SB-1 (0-3)	Lead		Lead	Mercury	Lead, Selenium
SB-1 (3-6)					
SB-2 (3-6)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd), Lead			Mercury	
SB-3 (3-6)				Mercury	
SB-3 (6-9)					
SB-4 (0-3)	B(a)A, B(a)P, B(b)F, B(k)F, D(a,h)A, I(1,2,3-cd), Arsenic, Lead		B(a)P, Lead	Mercury	B(a)A, B(b)F, Lead
SB-4 (3-6)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)				

Sample Location	Tier 1 Exposure Pathway Exceedances for Soil				
	Residential		Construction Worker		Soil Component of Groundwater Ingestion
	Ingestion	Inhalation	Ingestion	Inhalation	Class II
SB-4 (6-9)	D(a,h)A				
SB-5 (0-3)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)			Mercury	
SB-6 (0-3)	D(a,h)A				
SB-6 (3-6)	D(a,h)A, Lead			Mercury	
SB-7 (0-3)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)			Mercury	
SB-7 (6-9)	Arsenic				
SB-8 (6-9)	B(a)A, B(a)P, B(b)F, D(a,h)A, I(1,2,3-cd)P			Mercury	
SB-8 (9-12)	D(a,h)A			Mercury	
SB-9 (0-3)	B(a)A, B(a)P, D(a,h)A, Arsenic, Lead		Lead	Mercury	
SB-9 (3-6)	Arsenic				
SB-10 (0-3)	B(a)A, B(a)P, D(a,h)A, Lead			Mercury	
SB-10 (3-6)	B(a)A, B(a)P, B(b)F, B(k)F, D(a,h)A, I(1,2,3-cd)P, Lead		B(a)P, Lead	Naphthalene, Mercury	B(a)A, B(b)F, Lead

Notes: B(a)A=Benzo(a)anthracene; B(a)P=Benzo(a)pyrene; B(b)F=Benzo(b)fluoranthene; B(a)K=Benzo(k)fluoranthene; D(a,h)A=Dibenzo(a,h)anthracene; I(1,2,3-cd)P=Indeno(1,2,3-cd)pyrene.

5.4 Remedial Objectives Report Conclusions

5.4.1 Remediation Objectives

Based on the redevelopment of the Site as a public park and stormwater detention area, the residential and construction worker Tier 1 SROs and GROs are appropriate for the Remediation Site. With respect to the Tier 1 SROs and GROs for the Site, the remediation objectives for Class II groundwater are appropriate given that the groundwater beneath the Site does not meet the definition of a Class I Potable Resource Groundwater as described in 35 IAC 620.210.

5.4.2 Relevant Exposure Pathways

In light of the aforementioned Class II groundwater demonstration, both the soil component of Class I groundwater ingestion and the Class I groundwater ingestion exposure routes can be eliminated from further consideration. Furthermore, a City of Chicago Ordinance (11-8-390) prohibits the installation of potable water supply wells for potable purposes at the Site.

Based on the Class II groundwater demonstration, the following exposure pathways remain for the Site:

- Residential Soil Ingestion
- Construction Worker Ingestion
- Construction Worker Inhalation
- Soil Migration to Groundwater (Class II)

Each relevant exposure pathway is briefly in the following subsections.

5.4.2.1 Residential Soil Ingestion

The residential soil ingestion exposure pathway may be eliminated through the excavation and disposal of three (3) feet of impacted fill material and the construction of an engineered barrier of clean fill with a minimum thickness of three (3) feet. Additional engineered barriers include 18-inches of clean fill material coupled with a nonwoven geotextile and impermeable concrete pavement.

5.4.2.2 Construction Worker Soil Ingestion

Institutional controls in the form of a construction worker caution zone (CWCZ) may be applied to the Remediation Site. The institutional control requiring the CWCZ at the Site will be the Comprehensive NFR Letter. If the impacted soil materials are removed from the Remediation Site, a CWCZ may not be necessary.

5.4.2.3 Construction Worker Soil Inhalation

Institutional controls in the form of a construction worker caution zone (CWCZ) may be applied to the Remediation Site. The institutional control requiring the CWCZ at the Site will be the Comprehensive NFR Letter. If the impacted soil materials are removed from the Remediation Site, a CWCZ may not be necessary.

5.4.2.4 Soil Component of Class II Groundwater Ingestion

The groundwater ingestion route may be excluded in accordance with 35 IAC 742.320 by invoking institutional controls in the form of either the City of Chicago Ordinance and the associated Memorandum of Understanding with the IEPA, or a site-specific groundwater use restriction. Groundwater fate and transport modeling may be required to determine whether any future groundwater impacts are predicted to migrate off-site.

6.0 CONCLUSIONS

6.1 Comprehensive Site Investigation

BEI performed a CSI at the Site located at 3001-11 West Fifth Avenue in Chicago, Illinois. The performance of the CSI was intended to establish the presence or absence of impacts associated with the RECs identified during the completion of a Phase I ESA for the Site. The purpose of the CSI was to characterize and delineate potential impacts associated with the RECs through the advancement of soil borings, the installation of monitoring wells, and the laboratory analyses of soil and groundwater samples. This report is intended to serve as the CSIR/ROR pursuant to Sections 740.425 and 740.445.

6.1.1 Soil Investigation

Based on the RECs identified through the completion of a Phase I ESA, ten (10) soil borings were drilled in the areas most likely to have been impacted based on the historical Site operations and the 2FM-approved Sampling and Analysis Plan (SAP). At least two (2) soil samples from each soil boring were analyzed for various combinations of VOCs, SVOCs, PCBs, pesticides, herbicides and RCRA metals. The soil boring locations have been shown relative to the RECs for the Site on Figure 3. Photographs of Site investigation activities have been included in Appendix E. A complete description of field observations has been provided on the Soil Boring Logs included as Appendix F.

No VOCs, PCBs, pesticides or herbicides were detected at levels exceeding the most stringent residential Tier 1 SROs in any of the soil samples analyzed. However, certain SVOCs, and RCRA metals were detected in the Site's surficial (0 - 3 feet below grade) and subsurface soils (3-12 feet below grade) at levels exceeding the most restrictive residential and construction worker Tier 1 SROs for various exposure pathways. All soil samples impacted at levels exceeding the Tier 1 SROs were delineated with a clean soil sample from a deeper depth interval; therefore, the complete horizontal and vertical extent of soil impacts has been delineated.

The estimated extent of impacted soils exceeding the most restrictive Tier 1 SROs has been shown on Figures 5 – 11 for various exposure pathways. A Site Base Map is included as Figure 12. Soil analytical results were compared to the residential and construction worker Tier 1 SROs on Tables 1 – 5. Complete copies of the soil analytical reports have been provided in Appendix G.

6.1.2 Groundwater Investigation

Four (4) soil borings were completed as 1-inch diameter PVC temporary monitoring wells in accordance with the site-specific SAP. Groundwater samples were collected from each temporary monitoring well for various combinations of VOCs, SVOCs, PCBs, pesticides, herbicides, and RCRA metals. Temporary monitoring well locations have been shown relative to the RECs for the Site on Figure 3. Temporary monitoring well construction logs

have been included in Appendix F. Groundwater analytical results are compared to the Tier 1 GROs for various exposure routes on Tables 6 through 10. Complete copies of the groundwater analytical reports have been provided in Appendix H.

Temporary monitoring well top-of-casing elevations were surveyed and groundwater elevations were measured using a Solinst™ electronic water level meter in order to determine the regional groundwater flow direction beneath the Site. Triangulating between TMW-1, TMW-2 and TMW-4, regional groundwater flow direction was determined to be northeasterly. A groundwater contour map illustrating groundwater flow direction has been provided as Figure 4.

No VOCs, SVOCs, PCBs, pesticides, TAL Inorganics or herbicides were detected at levels exceeding the Tier 1 GROs for Class II groundwater ingestion; therefore, this exposure route can be eliminated from further consideration. Groundwater analytical results were also compared to the Tier 1 GROs for the indoor inhalation exposure route. No structures are intended in the redevelopment of the Remediation Site. However, the indoor inhalation exposure route has been evaluated for potential future reuse of the Site. Groundwater sample analytical results were compared to the groundwater remediation objectives for indoor air inhalation specified in Table H of Appendix B in 35 IAC 742. None of the targeted analytes exceeded the Tier 1 GROs for the indoor air inhalation exposure pathway; therefore, this exposure route can be eliminated from further consideration.

6.1.3 Comprehensive Site Investigation Completion

The nature and extent of soil and groundwater impacts has been adequately characterized and delineated. Additional characterization of the Site's soil and groundwater is not warranted. Based on the confirmed presence of surficial soil impacts at levels exceeding the most restrictive residential and construction worker Tier 1 SROs for various exposure pathways, and considering the Site's conversion into a public park, soil excavation and disposal coupled with engineered barriers (if necessary) and institutional controls (as needed) will be needed to mitigate human exposure to the impacted media.

6.2 Remedial Objectives

Based on the redevelopment of the Site as a public park and stormwater detention area, the residential and construction worker Tier 1 SROs and GROs are appropriate for the Remediation Site. With respect to the Tier 1 SROs and GROs for the Site, the remediation objectives for Class II groundwater are appropriate given that the groundwater beneath the Site does not meet the definition of a Class I Potable Resource Groundwater as described in 35 IAC 620.210.

Based on the results of the Exposure Route Evaluation and the Class II Groundwater Demonstration presented in the Remedial Objectives Report, the following exposure pathways remain relevant for the Site:

- Residential Soil Ingestion
- Construction Worker Ingestion
- Construction Worker Inhalation
- Soil Migration to Groundwater (Class II)

Each relevant exposure pathway is briefly in the following subsections.

6.2.1 Residential Soil Ingestion

The residential soil ingestion exposure pathway may be eliminated through the excavation and disposal of three (3) feet of impacted fill material and the construction of an engineered barrier of clean fill with a minimum thickness of three (3) feet. Additional engineered barriers include 18-inches of clean fill material coupled with a nonwoven geotextile and impermeable concrete pavement.

6.2.2 Construction Worker Soil Ingestion

Institutional controls in the form of a construction worker caution zone (CWCZ) may be applied to the Remediation Site. The institutional control requiring the CWCZ at the Site will be the Comprehensive NFR Letter. If the impacted soil materials are removed from the Remediation Site, a CWCZ may not be necessary.

6.2.3 Construction Worker Soil Inhalation

Institutional controls in the form of a construction worker caution zone (CWCZ) may be applied to the Remediation Site. The institutional control requiring the CWCZ at the Site will be the Comprehensive NFR Letter. If the impacted soil materials are removed from the Remediation Site, a CWCZ may not be necessary.

6.2.4 Soil Component of Class II Groundwater Ingestion

The groundwater ingestion route may be excluded in accordance with 35 IAC 742.320 by invoking institutional controls in the form of either the City of Chicago Ordinance and the associated Memorandum of Understanding with the IEPA, or a site-specific groundwater use restriction. Groundwater fate and transport modeling may be required to determine whether any future groundwater impacts are predicted to migrate off-site.

6.3 Remedial Action Plan

The Site redevelopment plan is still being finalized; as a result, the *Remedial Action Plan* will be submitted subsequently under separate cover. This report is intended to serve as the CSIR/ROR pursuant to Sections 740.425 and 740.445.

7.0 CLOSING REMARKS

No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a Site. The performance of this Comprehensive Site Investigation was intended to reduce, but not eliminate, uncertainty regarding the potential for soil and / or groundwater contamination in connection with this Site within reasonable limits of time and cost. The information presented herein was based field observations and analytical results from the areas of the Site and media that were actually investigated. BEI makes no express or implied warranties regarding the absence or existence of recognized environmental conditions in areas and/or media that were not investigated as part of this Comprehensive Site Investigation. This report was prepared exclusively for the City of Chicago, Department of Fleet and Facility Management, Department of Planning and Development, and Department of Law, and is not for the use or benefit of any other person or entity. The contents of this report may not be quoted in whole or in part. Furthermore, this report may not be relied upon by any person or entity without the express written consent of BEI.

8.0 REFERENCES

Brecheisen Engineering, Inc. May 7, 2019. *Final Phase I Environmental Site Assessment Report. Stormwater Landscape Program, Fifth Avenue Eco Orchard – East Garfield Park, 3001-13 and 3024-40 West Fifth Avenue, Chicago, Illinois 60612.* Chicago, Illinois.

Illinois Pollution Control Board. July 15, 2013. *Tiered Approach to Corrective Action Objectives.* Title 35 Illinois Administrative Code, Part 742. Springfield, Illinois.

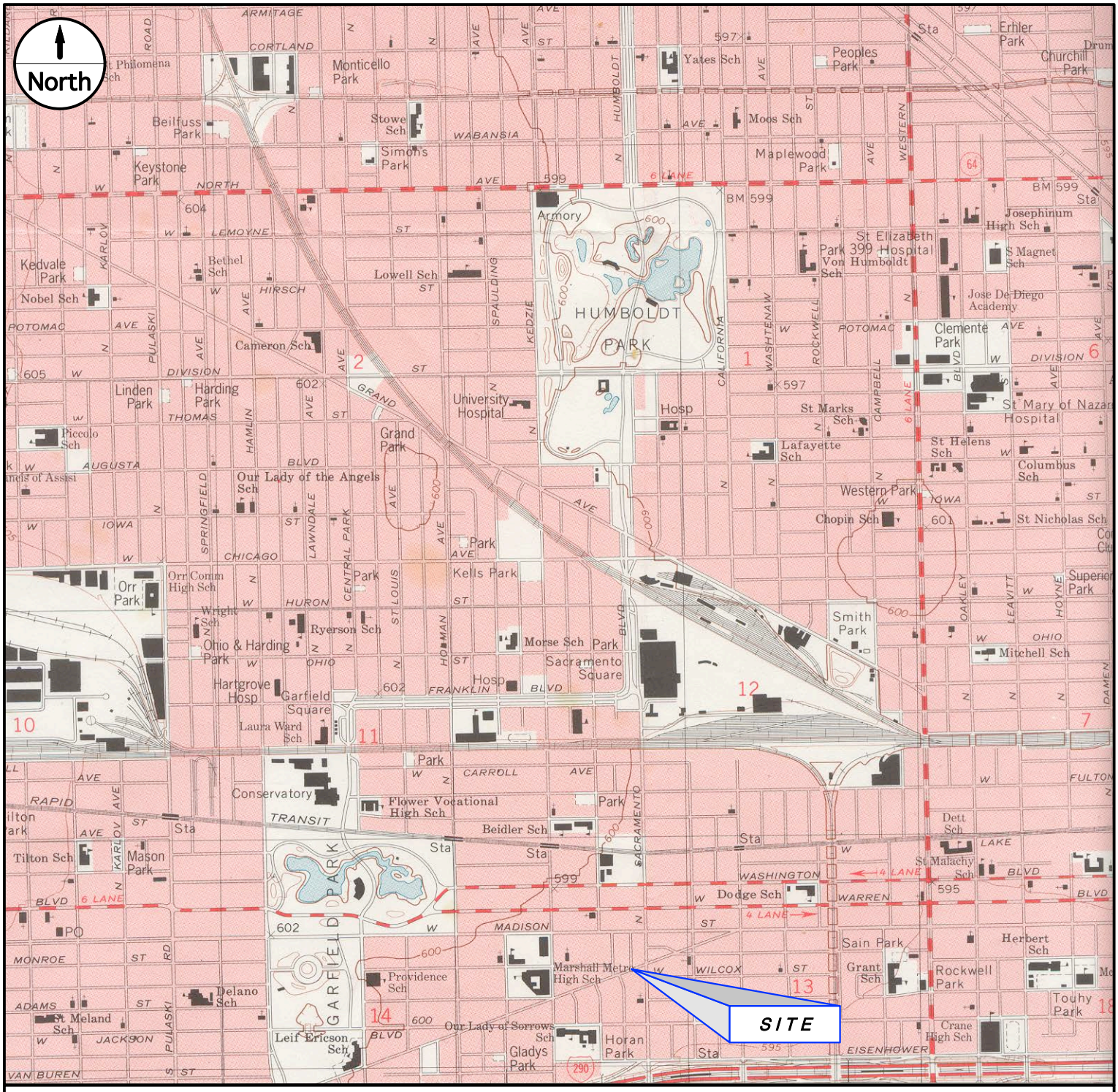
Illinois Pollution Control Board. February 17, 2004. *Site Remediation Program.* Springfield, Illinois.

Illinois State Geologic Survey. 1984. *Potential for Contamination of Shallow Aquifers in Illinois.* Circular 532. Springfield, Illinois.

Illinois State Geological Survey. 1971. *Summary of the Geology in the Chicago Area*. Circular 460. Springfield, Illinois.

United States Geological Survey. 1997. *Chicago Loop 7.5 Minute Quadrangle Map.* Washington DC.

FIGURES



Adapted From: USGS Topographic Map
Chicago Loop - 1997 - 7.5 Minute Series

Brecheisen Engineering, Inc.

Scale: 1 : 24,000	
Date: July 2019	
Project No: 16-2FMEHS-00013	
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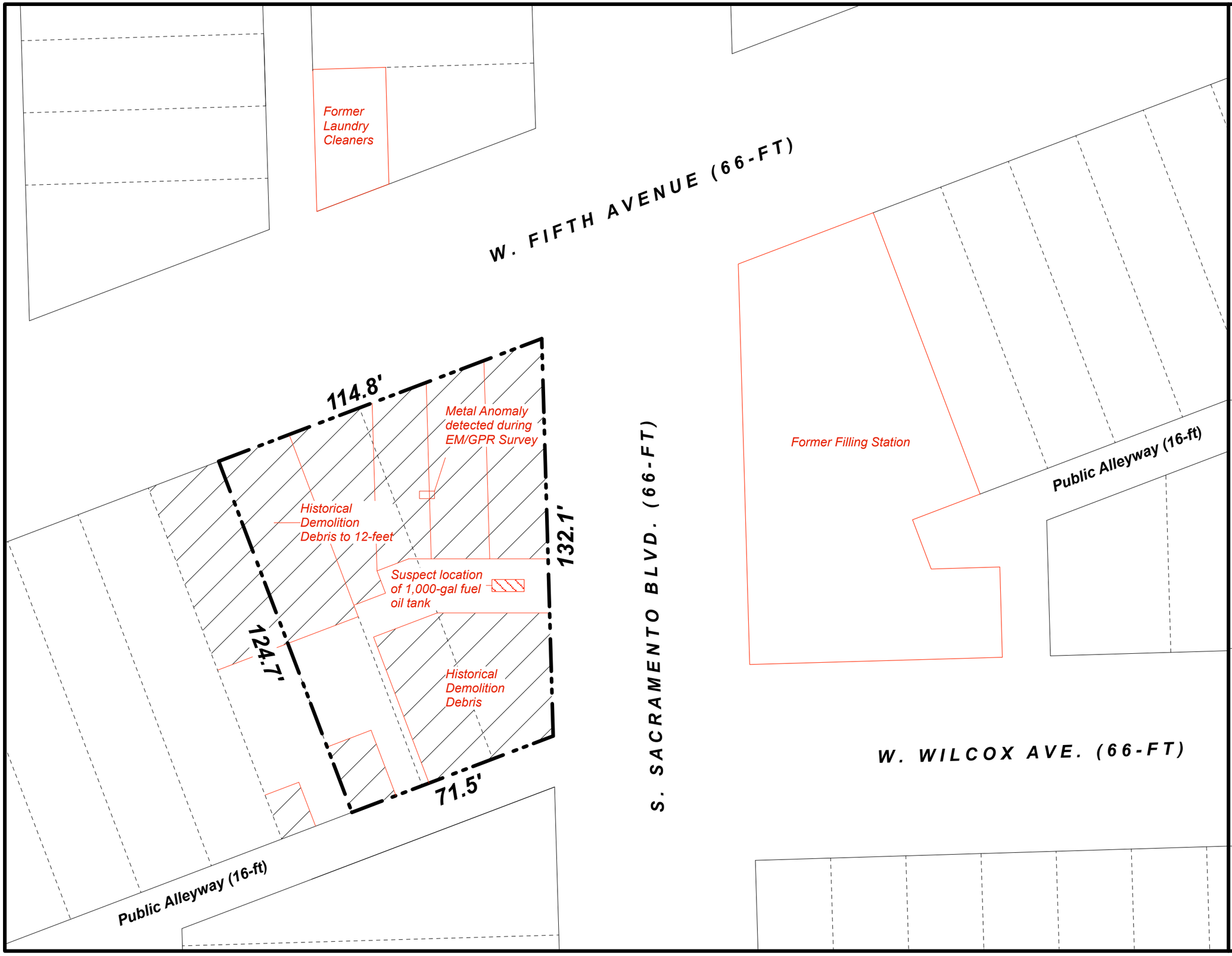
Figure 1
Site Location Map

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, Illinois 60612



North

0 15 30

Scale: 1" = 30'

Date: July 2019

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Project No. 16-2FMEHS-00013

LEGEND

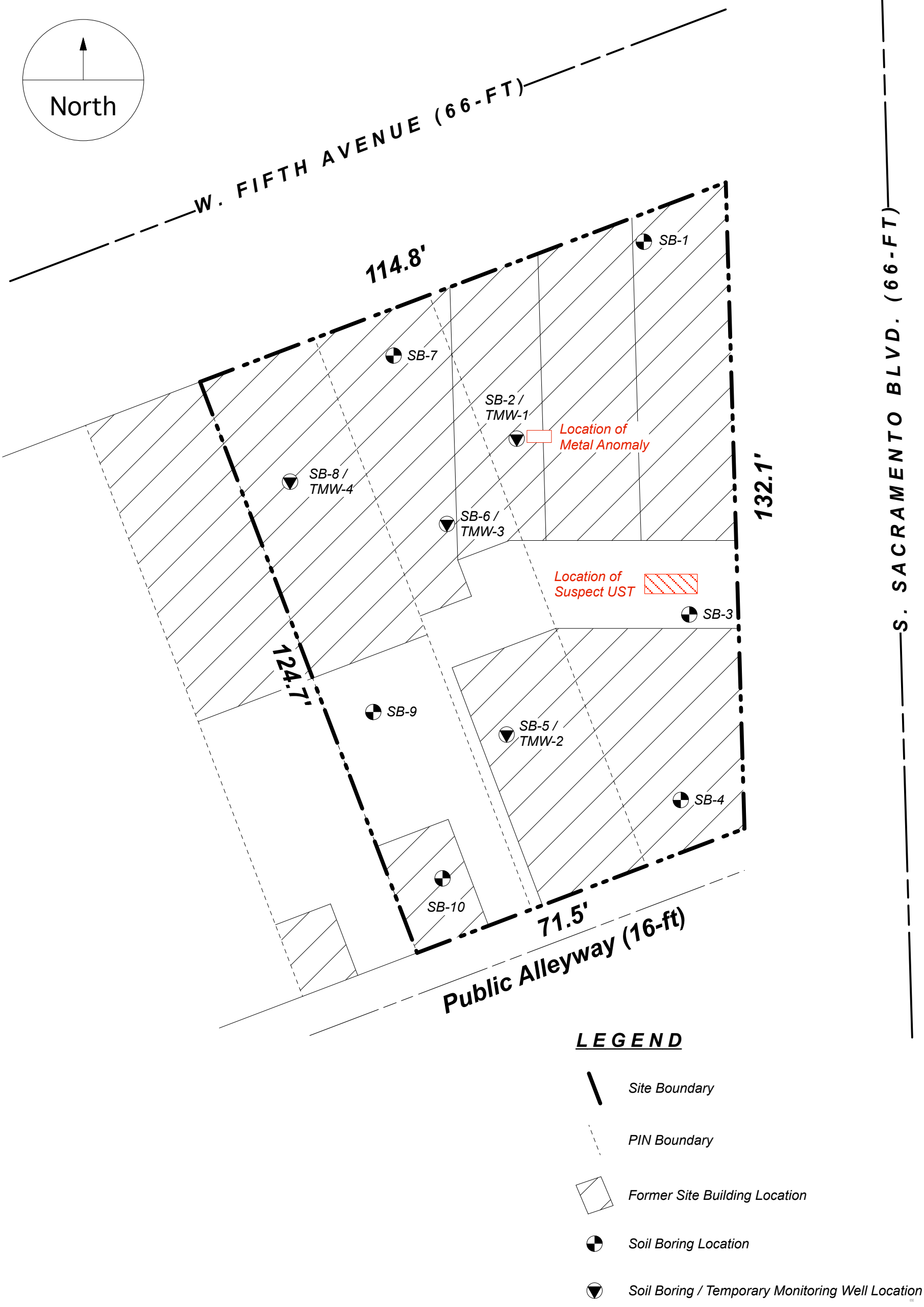
- Site Boundary
- PIN Boundary
- Former Site Building Location

Note: RECs denoted in red.

FIGURE 2
Site Features Map

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

Brecheisen Engineering, Inc.



Brecheisen Engineering, Inc.

Scale: 1" = 20'

0 10 20

Date: July 2019

Project No. 16-2FMEHS-00013

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FIGURE 3
Soil and Groundwater Sampling Locations

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

North

W. FIFTH AVENUE (66-FT)

114.8'

TMW-1
92.69'

TMW-4 93.0'
93.03'

92.9'

92.8'

92.8'

93.1'

92.9'

93.0'

93.2'

93.1'

93.3'

93.2'

93.3'

93.4'

93.4'

TMW-2
93.45'

124.7'

132.1'

71.5'

Public Alleyway (16-ft)

S. SACRAMENTO BLVD. (66-FT)

LEGEND

- Site Boundary
- PIN Boundary
- Temporary Monitoring Well Location
- 93.4' Groundwater Contour Elevation
- Groundwater Flow Direction

Brecheisen Engineering, Inc.

Scale: 1" = 20'

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Date: July 2019

Project No. 16-2FMEHS-00013

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FIGURE 4
Groundwater Contour Map

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

North

W. FIFTH AVENUE (66-FT)

114.8'

SB-1 (0-3)
Lead

SB-7 (0-3)
PNAs

SB-2

SB-8

SB-6 (0-3)
PNAs

132.1'

S. SACRAMENTO BLVD. (66-FT)

SB-3

124.7'

SB-9 (0-3)
PNAs, Arsenic, Lead

SB-5 (0-3)
PNAs

SB-4 (0-3)
PNAs, Arsenic, Lead

SB-10 (0-3)
PNAs, Lead

71.5'

Public Alleyway (16-ft)

LEGEND

- Site Boundary
- PIN Boundary
- Soil Boring Location
- Soil sampling location exceeding the residential Tier 1 SROs for Soil Ingestion
- Estimated extent of soil impacts exceeding the residential Tier 1 SROs for Soil Ingestion

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Scale: 1" = 20'

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Date: July 2019

Project No. 16-2FMEHS-00013

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FIGURE 5A
Soil Ingestion Exceedances for Surficial Soils (0-3 feet bgs)

Resilient Corridors
Fifth Avenue Eco Orchard
3001-11 W. Fifth Ave.
Chicago, IL 60612

North

W. FIFTH AVENUE (66-FT)

S. SACRAMENTO BLVD. (66-FT)

114.8'

132.1'

124.7'

71.5'

Public Alleyway (16-ft)

SB-1

SB-7 (6-9)
Arsenic

SB-2 (3-6)
PNAs, Lead

SB-8 (6-12)
PNAs

SB-6 (3-6)
PNAs, Lead

SB-3

SB-9 (3-6)
Arsenic

SB-5

SB-4 (3-9)
PNAs

SB-10 (3-6)
PNAs, Lead

LEGEND

- Site Boundary
- PIN Boundary
- Soil Boring Location
- Soil sampling location exceeding the residential Tier 1 SROs for Soil Ingestion
- Estimated extent of soil impacts exceeding the residential Tier 1 SROs for Soil Ingestion

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Scale: 1" = 20'

0 10 20

Date: July 2019

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FIGURE 5B
Soil Ingestion Exceedances for Subsurface Soils (3-12 feet bgs)

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

North

W. FIFTH AVENUE (66-FT)

S. SACRAMENTO BLVD. (66-FT)

114.8'

132.1'

124.7'

71.5'

Public Alleyway (16-ft)

SB-1 (0-3)
Lead (lng)
Mercury (Inh)

SB-7 (0-3)
Mercury (Inh)

SB-8 (6-12)
Mercury (Inh)

SB-2 (3-6)
Mercury (Inh)

SB-6 (3-6)
Mercury (Inh)

SB-3 (3-6)
Mercury (Inh)

SB-9 (0-3)
Lead (lng)
Mercury (Inh)

SB-4 (0-3)
PNAs (lng)
Lead (lng)
Mercury (Inh)

SB-5 (0-3)
Mercury (Inh)

SB-10 (0-6)
PNAs (lng / Inh)
Lead (lng)
Mercury (Inh)

LEGEND

Site Boundary

PIN Boundary

Soil Boring Location

Soil sampling location exceeding the residential Tier 1 SROs for Soil Ingestion

Estimated extent of soil impacts exceeding the residential Tier 1 SROs for Soil Ingestion

Brecheisen Engineering, Inc.

Scale: 1" = 20'

0 10 20

Date: July 2019

Project No. 16-2FMEHS-00013

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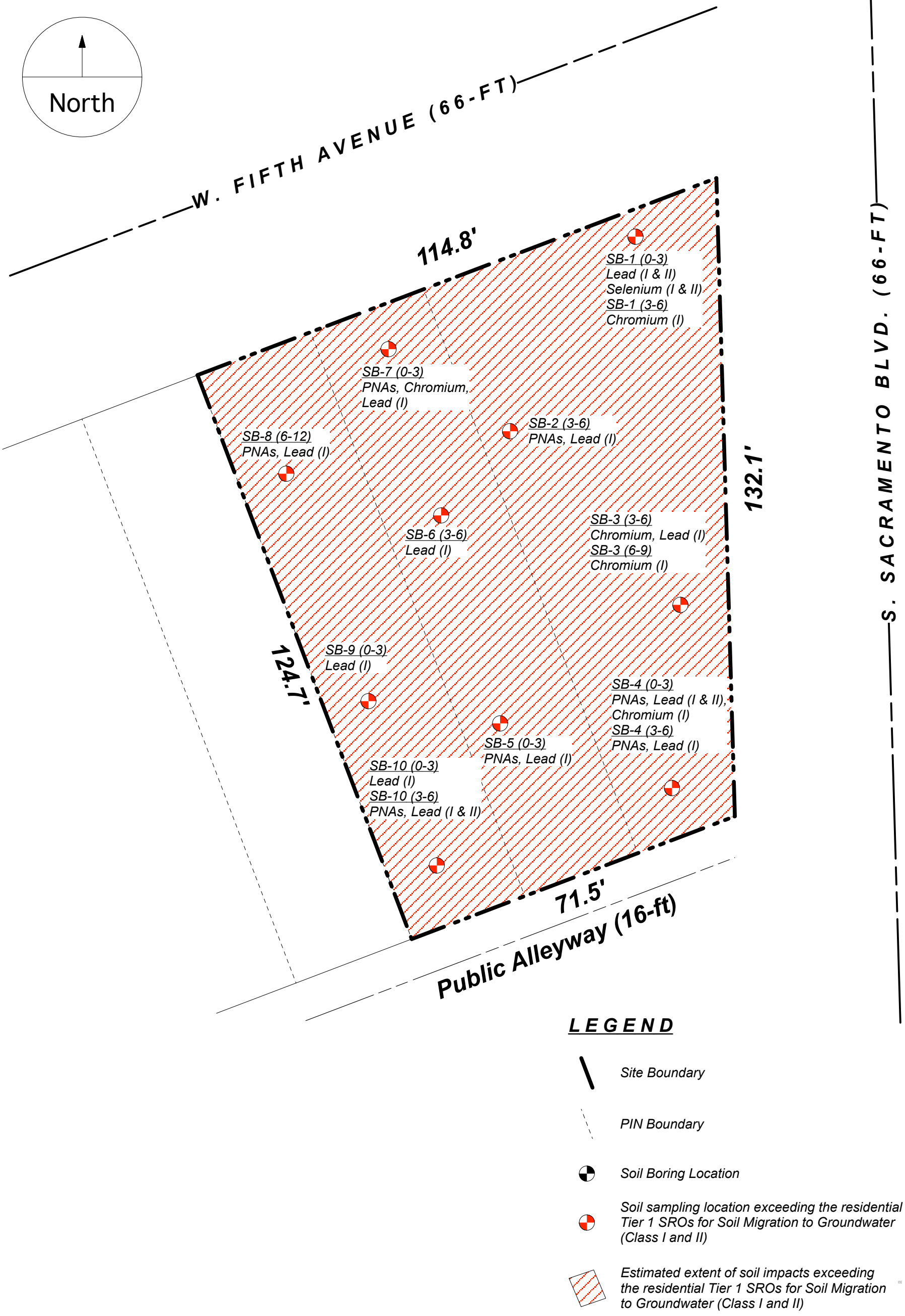
FIGURE 6
Construction Worker Exceedances

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612



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Scale: 1" = 20'

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Date: July 2019

Project No. 16-2FMEHS-00013

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FIGURE 7
Soil Migration to Groundwater Exceedances (Class I & II)

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

North

W. FIFTH AVENUE (66-FT)

114.8'

132.1'

124.7'

71.5'

Public Alleyway (16-ft)

S. SACRAMENTO BLVD. (66-FT)

TMW-1

TMW-4
Lead (I)

TMW-3
Lead (I),
Manganese (I)

TMW-2
Lead (I)

LEGEND

- Site Boundary
- PIN Boundary
- Temporary Monitoring Well Location
- Groundwater sample location exceeding the residential Tier 1 GROs (Class I and II)
- Estimated extent of groundwater mpacts exceeding the residential Tier 1 GROs (Class I and II)

Brecheisen Engineering, Inc.

Scale: 1" = 20'

0 10 20

Date: July 2019

Project No. 16-2FMEHS-00013

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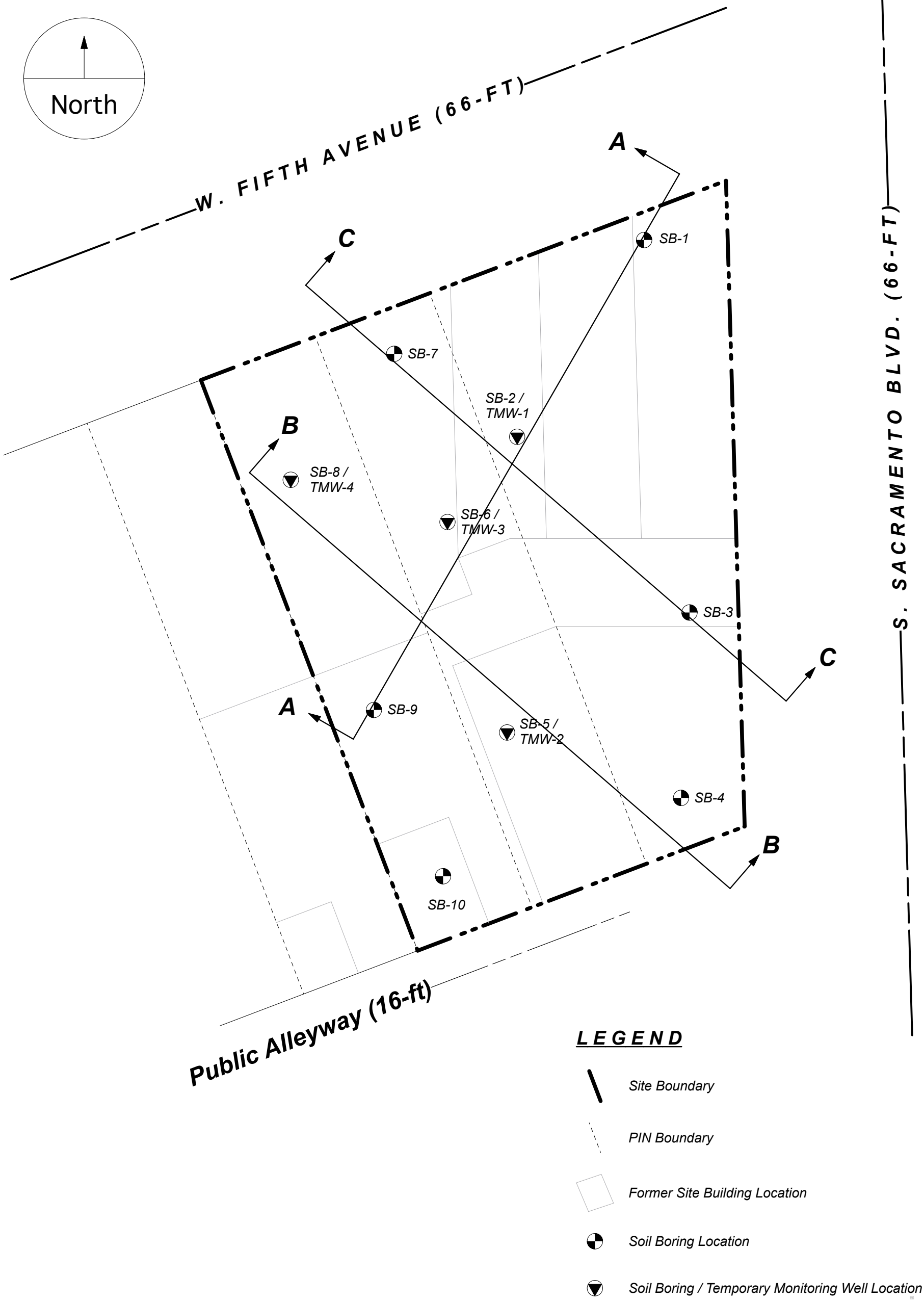
FIGURE 8
Groundwater Ingestion Exceedances
(Class I & II)

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612



Brecheisen Engineering, Inc.

Scale: 1" = 20'

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Date: July 2019

Project No. 16-2FMEHS-00013

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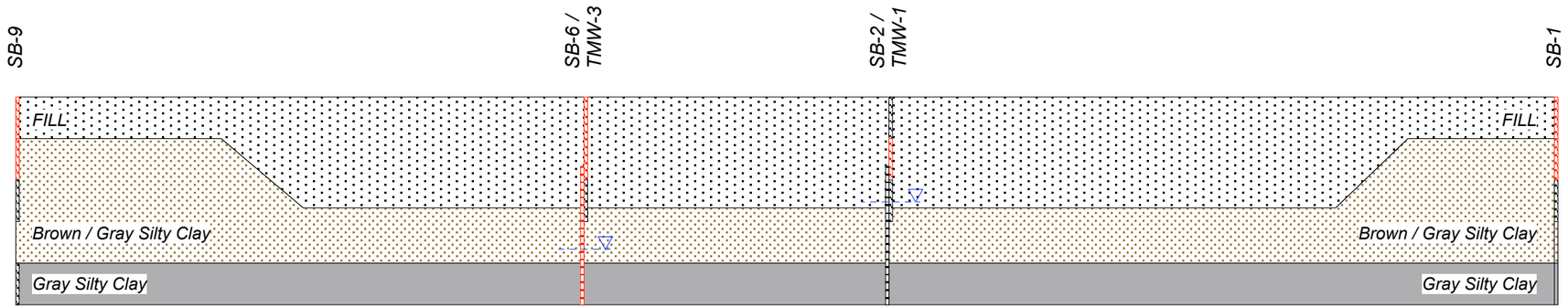
FIGURE 9
Geological Cross Sections Plan View

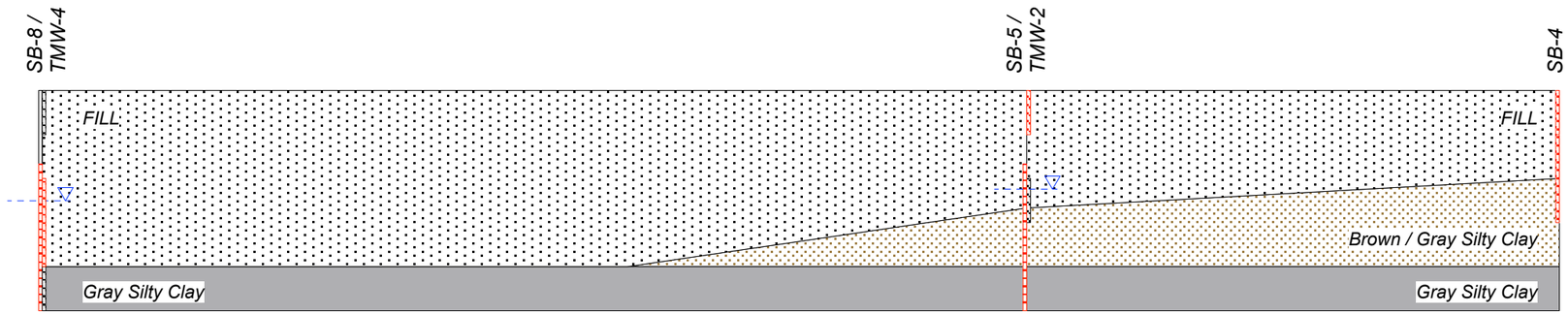
Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

SECTION A-A

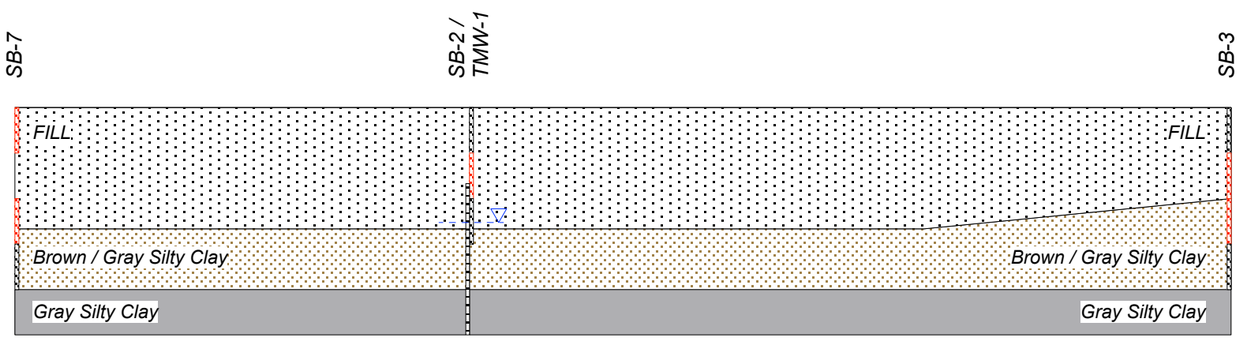


SB-9 (12-15)
K = 2.5 x $(10)^{-8}$ cm/s

SECTION B-B



SECTION C-C



LEGEND

- Discrete soil sampling location
- Soil sampling location exceeding the most restrictive residential Tier 1 SROs
- Discrete groundwater sampling location
- Groundwater sampling location exceeding the most restrictive residential Tier 1 GROs
- Groundwater potentiometric surface (measured 12/17/2018)

0 10

Scale: 1" = 10'

Date: July 2019

Checked by: TAB

Project No. 16-2FMEHS-00013

FIGURE 10
Geological Cross Sections

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

Brecheisen Engineering, Inc.

Brecheisen Engineering, Inc.

Scale: 1" = 20'

0 10 20

Date: July 2019

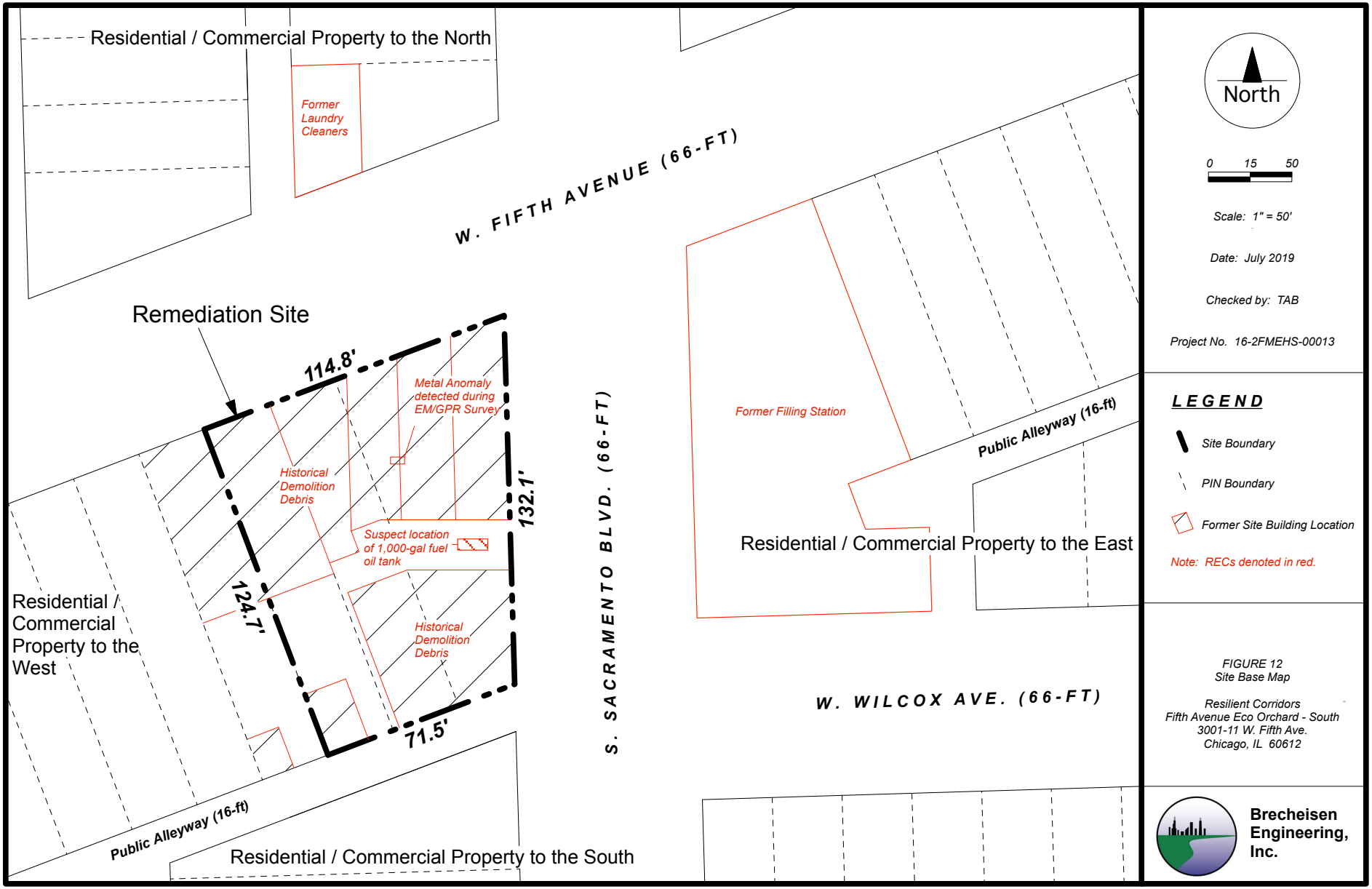
Project No. 16-2FMEHS-00013

Checked by: TAB

FIGURE 11
Soil Migration to Groundwater Exceedances (Class II)

Resilient Corridors
Fifth Avenue Eco Orchard - South
3001-11 W. Fifth Ave.
Chicago, IL 60612

SITE BASE MAP
Cook County
Chicago / Resilient Corridors Fifth Avenue Eco Orchard - South
Site Remediation Program / Technical Reports



TABLES

Table 1

Soil Analytical Results
VOCs / BETX
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-1	SB-1	SB-2	SB-2	SB-3	SB-3	SB-4	SB-4	SB-5	SB-5	**Tier 1 SROs**					
Sample Depth (ft)	(0-3)	(3-6)	(0-3)	(3-6)	(0-3)	(6-9)	(0-3)	(3-6)	(0-3)	(6-9)	Residential		Construction Worker		Migration to Groundwater	
Sample Date	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
Acetone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	70,000	100,000	--	100,000	25	25
Benzene	< 0.0070	< 0.0044	< 0.0055	< 0.0048	< 0.0037	< 0.0047	< 0.0055	< 0.0047	< 0.0054	< 0.0047	12	0.8	2,300	2.2	0.03	0.17
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	3,000	2,000	3,000	0.6	0.6
Bromoform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	81	53	16,000	140	0.8	0.8
Bromomethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	110	10	1,000	3.9	0.2	1.2
2-Butanone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	47,000[a]	25,000[a]	120,000[a]	730[a]	17[a]	17[a]
Carbon disulfide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	720	20,000	9.0	32	160
Carbon tetrachloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5	0.3	410	0.90	0.07	0.33
Chlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	130	4,100	1.3	1	6.5
Chloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	1,500[a]	20,000[a]	39[a]	--	--
Chloroform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	100	0.3	2,000	0.76	0.6	2.9
Chloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	110[a]	--	5[a]	--	--
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	1,300	41,000	1,300	0.4	0.4
1,1-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	1,300	200,000	130	23	110
1,2-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7	0.4	1,400	0.99	0.02	0.1
1,1-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,900	290	10,000	3.0	0.06	0.3
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	780	1,200	20,000	1,200	0.4	1.1
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	3,100	41,000	3,100	0.7	3.4
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	9	15	1,800	0.50	0.03	0.15
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.4	1.1	1,200	0.39	0.004	0.02
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.4	1.1	1,200	0.39	0.004	0.02
Ethylbenzene	< 0.0070	< 0.0044	< 0.0055	< 0.0048	< 0.0037	< 0.0047	< 0.0055	< 0.0047	< 0.0054	< 0.0047	7,800	400	20,000	58	13	19
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	390[a]	450[a]	1,000[a]	47[a]	0.16[a]	0.16[a]
4-Methyl-2-pentanone (MIBK)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,300[a]	3,100[a]	160,000[a]	340[a]	2.5[a]	2.5[a]
Methylene chloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	85	13	12,000	34	0.02	0.2
Methyl tert-butyl ether	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	780	8,800	2,000	140	0.32	0.32
Styrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16,000	1,500	41,000	430	4	18
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.2[a]	0.62[a]	620[a]	1.7[a]	0.0035[a]	0.0035[a]
Tetrachloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12	11	2,400	28	0.06	0.3
Toluene	< 0.0070	< 0.0044	< 0.0055	< 0.0048	< 0.0037	< 0.0047	< 0.0055	< 0.0047	< 0.0054	< 0.0047	16,000	650	410,000	42	12	29
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	1,200	--	1,200	2	9.6
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310	1,800	8,200	1,800	0.02	0.3
Trichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	58	5	1,200	12	0.06	0.3
Vinyl chloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.46	0.28	170	1.1	0.01	0.07
Xylenes, Total	< 0.022	< 0.013	< 0.017	< 0.014	< 0.011	< 0.014	< 0.017	< 0.014	< 0.016	< 0.015	16,000	320	41,000	5.6	150	150

NOTES

All concentrations listed in mg/kg (ppm).

Tier 1 SROs from 35 IAC 742, Appendix B, Tables A and B.

All samples analyzed pursuant to SW-846 USEPA Method 5035/8260B.

"<" indicates that analyte was not detected at stated detection limit.

"--" indicates value not available in 35 IAC 742.

Bold print indicates analyte exceeded Tier 1 SRO.

NS denotes Not Sampled for that analyte.

[a]Tier I SRO from IEPA issued "Chemicals not in TACO Tier I Tables (revised 10/30/2012).

Table 1

Soil Analytical Results
VOCs / BETX
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-6	SB-6	SB-7	SB-7	SB-8	SB-8	SB-9	SB-9	SB-10	SB-10	**Tier 1 SROs**					
Sample Depth (ft)	(0-3)	(3-6)	(0-3)	(6-9)	(0-3)	(6-9)	(0-3)	(3-6)	(0-3)	(3-6)	Residential		Construction Worker		Migration to Groundwater	
Sample Date	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
Acetone	< 0.073	< 0.071	NS	NS	NS	NS	NS	NS	NS	NS	70,000	100,000	--	100,000	25	25
Benzene	< 0.0049	< 0.0047	< 0.0072	< 0.0048	< 0.0046	< 0.0048	< 0.0056	< 0.0046	< 0.0053	< 0.0070	12	0.8	2,300	2.2	0.03	0.17
Bromodichloromethane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	10	3,000	2,000	3,000	0.6	0.6
Bromoform	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	81	53	16,000	140	0.8	0.8
Bromomethane	< 0.0098	< 0.0093	NS	NS	NS	NS	NS	NS	NS	NS	110	10	1,000	3.9	0.2	1.2
2-Butanone	< 0.073	< 0.071	NS	NS	NS	NS	NS	NS	NS	NS	47,000[a]	25,000[a]	120,000[a]	730[a]	17[a]	17[a]
Carbon disulfide	< 0.049	< 0.047	NS	NS	NS	NS	NS	NS	NS	NS	7,800	720	20,000	9.0	32	160
Carbon tetrachloride	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	5	0.3	410	0.90	0.07	0.33
Chlorobenzene	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	1,600	130	4,100	1.3	1	6.5
Chloroethane	< 0.0098	< 0.0093	NS	NS	NS	NS	NS	NS	NS	NS	--	1,500[a]	20,000[a]	39[a]	--	--
Chloroform	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	100	0.3	2,000	0.76	0.6	2.9
Chloromethane	< 0.0098	< 0.0093	NS	NS	NS	NS	NS	NS	NS	NS	--	110[a]	--	5[a]	--	--
Dibromochloromethane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	1,600	1,300	41,000	1,300	0.4	0.4
1,1-Dichloroethane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	7,800	1,300	200,000	130	23	110
1,2-Dichloroethane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	7	0.4	1,400	0.99	0.02	0.1
1,1-Dichloroethene	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	3,900	290	10,000	3.0	0.06	0.3
cis-1,2-Dichloroethene	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	780	1,200	20,000	1,200	0.4	1.1
trans-1,2-Dichloroethene	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	1,600	3,100	41,000	3,100	0.7	3.4
1,2-Dichloropropane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	9	15	1,800	0.50	0.03	0.15
cis-1,3-Dichloropropene	< 0.0019	< 0.0019	NS	NS	NS	NS	NS	NS	NS	NS	6.4	1.1	1,200	0.39	0.004	0.02
trans-1,3-Dichloropropene	< 0.0019	< 0.0019	NS	NS	NS	NS	NS	NS	NS	NS	6.4	1.1	1,200	0.39	0.004	0.02
Ethylbenzene	< 0.0049	< 0.0047	< 0.0072	< 0.0048	< 0.0046	< 0.0048	< 0.0056	< 0.0046	< 0.0053	< 0.0070	7,800	400	20,000	58	13	19
2-Hexanone	< 0.019	< 0.019	NS	NS	NS	NS	NS	NS	NS	NS	390[a]	450[a]	1,000[a]	47[a]	0.16[a]	0.16[a]
4-Methyl-2-pentanone (MIBK)	< 0.019	< 0.019	NS	NS	NS	NS	NS	NS	NS	NS	6,300[a]	3,100[a]	160,000[a]	340[a]	2.5[a]	2.5[a]
Methylene chloride	< 0.0098	< 0.0093	NS	NS	NS	NS	NS	NS	NS	NS	85	13	12,000	34	0.02	0.2
Methyl tert-butyl ether	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	780	8,800	2,000	140	0.32	0.32
Styrene	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	16,000	1,500	41,000	430	4	18
1,1,2,2-Tetrachloroethane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	3.2[a]	0.62[a]	620[a]	1.7[a]	0.0035[a]	0.0035[a]
Tetrachloroethene	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	12	11	2,400	28	0.06	0.3
Toluene	< 0.0049	< 0.0047	< 0.0072	< 0.0048	< 0.0046	< 0.0048	< 0.0056	< 0.0046	< 0.0053	< 0.0070	16,000	650	410,000	42	12	29
1,1,1-Trichloroethane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	--	1,200	--	1,200	2	9.6
1,1,2-Trichloroethane	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	310	1,800	8,200	1,800	0.02	0.3
Trichloroethene	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	58	5	1,200	12	0.06	0.3
Vinyl chloride	< 0.0049	< 0.0047	NS	NS	NS	NS	NS	NS	NS	NS	0.46	0.28	170	1.1	0.01	0.07
Xylenes, Total	< 0.015	< 0.014	< 0.022	< 0.015	< 0.013	< 0.015	< 0.017	< 0.013	< 0.016	< 0.021	16,000	320	41,000	5.6	150	150

NOTES

All concentrations listed in mg/kg (ppm).

Tier 1 SROs from 35 IAC 742, Appendix B, Tables A and B.

All samples analyzed pursuant to SW-846 USEPA Method 5035/8260B.

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"--" indicates value not available in 35 IAC 742.

Bold print indicates analyte exceeded Tier 1 SRO.

NS denotes Not Sampled for that analyte.

[a]Tier I SRO from IEPA issued "Chemicals not in TACO Tier I Tables (revised 10/30/2012).

Table 2

Soil Analytical Results
SVOCs / PNAs
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-1	SB-1	SB-2	SB-2	SB-2	SB-3	SB-4	SB-4	SB-4	SB-5	SB-5	Tier 1 SROs					
Sample Depth (ft)	(0-3)	(3-6)	(0-3)	(3-6)	(6-9)	(6-9)	(0-3)	(3-6)	(6-9)	(0-3)	(6-9)	Residential		Construction Worker		Migration to Groundwater	
Sample Date	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
Acenaphthene	0.10	< 0.039	< 0.035	0.41	< 0.041	< 0.041	2.2	0.95	0.22	0.76	< 0.041	4,700	--	120,000	--	570	2,900
Acenaphthylene	< 0.042	< 0.039	< 0.035	0.40	< 0.041	< 0.041	1.7	0.42	0.065	< 0.040	< 0.041	2,300[a]	--	61,000[a]	--	85[a]	420[a]
Aniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Anthracene	0.38	< 0.039	< 0.035	1.6	< 0.041	< 0.041	9.2	2.5	0.59	4.0	< 0.041	23,000	--	610,000	--	12,000	59,000
Benzo(a)anthracene	0.59	< 0.039	0.076	**4.1**	< 0.041	< 0.041	**34**	**4.2**	0.83	**7.7**	< 0.041	1.1[b]	--	170	--	2	8
Benzidine	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Benzo(a)pyrene	0.44	< 0.039	0.082	**4.0**	< 0.041	< 0.041	**32**	**3.6**	0.68	**6.2**	< 0.041	1.3[b]	--	17	--	8	82
Benzo(b)fluoranthene	0.49	< 0.039	0.070	**3.8**	< 0.041	< 0.041	**36**	**3.2**	0.6	**5.8**	< 0.041	1.5[b]	--	170	--	5	25
Benzo(g,h,i)perylene	0.29	< 0.039	0.12	2.3	< 0.041	< 0.041	22	2.0	0.39	4.0	< 0.041	2,300[a]	--	61,000[a]	--	27,000[a]	130,000[a]
Benzo(k)fluoranthene	0.36	< 0.039	0.071	2.9	< 0.041	< 0.041	**27**	3.1	0.58	5.2	< 0.041	9	--	1,700	--	49	250
Benzoic acid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310,000	--	820,000	--	400	400
Benzyl alcohol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800[a]	--	61,000[a]	--	3[a]	3[a]
Bis(2-chloroethoxy)methane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Bis(2-chloroethyl)ether	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.6	0.2	75	0.66	0.0004	0.0004
Bis(2-ethylhexyl)phthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	46	31,000	4,100	31,000	3,600	31,000
4-Bromophenyl phenyl ether	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Butyl benzyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16,000	930	410,000	930	930	930
Carbazole	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	32	--	6,200	--	0.6	2.8
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310	--	820	--	0.7	0.7
4-Chloro-3-methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
2-Chloronaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,300[a]	--	41,000[a]	--	49[a]	240[a]
2-Chlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	390	53,000	10,000	53,000	4	4
4-Chlorophenyl phenyl ether	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Chrysene	0.62	< 0.039	0.086	4.1	< 0.041	< 0.041	36	4.2	0.82	7.9	< 0.041	88	--	17,000	--	160	800
Dibenzo(a,h)anthracene	0.17	< 0.039	< 0.035	**1.1**	< 0.041	< 0.041	**11**	**1.1**	**0.21**	**2.1**	< 0.041	0.2[b]	--	17	--	2	7.6
Dibenzofuran	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78[a]	--	820[a]	--	3[a]	15[a]
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,000	560	18,000	310	17	43
1,3-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	11,000	--	340	2	11
3,3´-Dichlorobenzidine	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1	--	280	--	0.007	0.033
2,4-Dichlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	230	--	610	--	1	1
Diethyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	63,000	2,000	1,000,000	2,000	470	470
2,4-Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	--	41,000	--	9	9
Dimethyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	20,000[a]	--	--	--
4,6-Dinitro-2-methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
2,4-Dinitrophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	160	--	410	--	0.2	0.2
2,4-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.9	--	180	--	0.0008	0.0008
2,6-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.9	--	180	--	0.0007	0.0007
Di-n-butyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	2,300	200,000	2,300	2,300	2,300
Di-n-octyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	10,000	4,100	10,000	10,000	10,000
Fluoranthene	1.4	< 0.039	0.14	8.1	< 0.041	< 0.041	73	9.1	2	17	< 0.041	3,100	--	82,000	--	4,300	21,000
Fluorene	0.15	< 0.039	< 0.035	0.57	< 0.041	< 0.041	3.0	1.4	0.36	1.1	< 0.041	3,100	--	82,000	--	560	2,800
Hexachlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.4	1	78	2.6	2	11
Hexachlorobutadiene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78[a]	--	200[a]	--	2.2[a]	11[a]
Hexachlorocyclopentadiene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	550	10	14,000	1.1	400	2,200
Hexachloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78	--	2,000	--	0.5	2.6
Indeno(1,2,3-cd)pyrene	0.25	< 0.039	0.057	**2.0**	< 0.041	< 0.041	**21**	**1.8**	0.34	**3.8**	< 0.041	0.86[b]	--	170	--	14	69
Isophorone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15,600	4,600	410,000	4,600	8	8
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310[a]	--	820[a]	--	1.9[a]	9.5[a]
2-Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,900	--	100,000	--	15	15
4-Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800[a]	100,000[a]	4,100[a]	3,300[a]	3.9[a]	3.9[a]
Naphthalene	0.082	< 0.039	< 0.035	0.11	< 0.041	< 0.041	0.48	1.4	0.45	0.067	< 0.041	1,600	170	4,100	1.8	12	18
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,200[a]	18[a]	31,000[a]	1.5[a]	0.7[a]	0.7[a]
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310[a]	1,500[a]	2,000[a]	52[a]	0.14[a]	0.14[a]
2-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
4-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Nitrobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	39	92	1,000	9.4	0.1	0.1
N-Nitrosodi-n-propylamine	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09	--	18	--	0.00005	0.00005
N-Nitrosodimethylamine	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.013[a]	0.012[a]	1.6[a]	2[a]	0.000007[a]	0.000007[a]
N-Nitrosodiphenylamine	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	130	--	25,000	--	1	5.6
Bis(2-chloroisopropyl)ether	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,100[a]	--	200[a]	--	2.4[a]	2.4[a]
Pentachlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3	--	520	--	0.03	0.14
Phenanthrene	1.7	< 0.039	0.091	5.7	< 0.041	< 0.041	35	9.6	2.3	16	< 0.041	2,300[a]	--	61,000[a]	--	210[a]	1,100[a]
Phenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	23,000	--	61,000	--	100	100
Pyrene	1.1	< 0.039	0.14	7.6	< 0.041	< 0.041	63	7.6	1.6	16	< 0.041	2,300	--	61,000	--	4,200	21,000
Pyridine	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78[a]	--	2,000[a]	--	0.028[a]	0.028[a]
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	780	3,200	2,000	920	5	53
2,4,5-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	--	200,000	--	270	1,400
2,4,6-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	58	200	11,000	540	0.2	0.77

NOTES

All concentrations listed in mg/kg (ppm).

Tier 1 SROs from 35 IAC 742, Appendix B, Tables A and B.

All samples analyzed pursuant to SW-846 USEPA Method 8270C.

"<" indicates that analyte was not detected at stated detection limit.

"--" indicates value not available in 35 IAC 742.

NS denotes "not sampled" for that analyte.

Bold print indicates analyte exceeded Tier 1 SRO.

[a]Tier I SRO from IEPA issued "Chemicals not in TACO Tier I Tables (revised 10/30/2012).

[b]Tier I SRO from Section 742.Appendix A: Table H - Concentrations of PNA chemicals in background soils.

Table 2
Soil Analytical Results
SVOCs / PNAs
3001-13 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-6	SB-6	SB-6	SB-7	SB-7	SB-8	SB-8	SB-8	SB-9	SB-9	SB-10	SB-10	SB-10	Tier 1 SROs					
Sample Depth (ft)	(0-3)	(3-6)	(6-9)	(0-3)	(6-9)	(0-3)	(6-9)	(9-12)	(0-3)	(3-6)	(0-3)	(3-6)	(6-9)	Residential		Construction Worker		Migration to Groundwater	
Sample Date	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
Acenaphthene	< 0.35	0.057	< 0.041	0.076	< 0.041	< 0.037	0.20	0.045	0.20	< 0.040	0.095	5.8	< 0.041	4,700	--	120,000	--	570	2,900
Acenaphthylene	< 0.35	0.097	< 0.041	0.87	< 0.041	< 0.037	0.11	0.074	0.11	< 0.040	0.081	4.6	< 0.041	2,300[a]	--	61,000[a]	--	85[a]	420[a]
Aniline	< 3.6	< 0.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Anthracene	< 0.35	0.24	< 0.041	1.7	< 0.041	0.040	0.69	0.24	0.54	< 0.040	0.43	25	< 0.041	23,000	--	610,000	--	12,000	59,000
Benzo(a)anthracene	< 0.35	0.77	< 0.041	**4.2**	< 0.041	0.22	**2.2**	0.95	**1.5**	< 0.040	**1.5**	**55**	0.041	1.1[b]	--	170	--	2	8
Benzidine	< 3.5	< 0.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Benzo(a)pyrene	< 0.35	0.76	< 0.041	**3.0**	< 0.041	0.24	**1.8**	0.9	**1.6**	< 0.040	**1.5**	**52**	< 0.041	1.3[b]	--	17	--	8	82
Benzo(b)fluoranthene	< 0.35	0.70	< 0.041	**2.0**	< 0.041	0.27	**2.0**	0.93	1.3	< 0.040	1.4	**38**	< 0.041	1.5[b]	--	170	--	5	25
Benzo(g,h,i)perylene	< 0.35	0.50	< 0.041	1.5	< 0.041	0.18	0.98	0.56	0.89	< 0.040	0.94	25	< 0.041	2,300[a]	--	61,000[a]	--	27,000[a]	130,000[a]
Benzo(k)fluoranthene	< 0.35	0.66	< 0.041	2.2	< 0.041	0.18	1.1	0.76	1.2	< 0.040	1.3	**43**	< 0.041	9	--	1,700	--	49	250
Benzoic acid	< 8.9	< 0.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310,000	--	820,000	--	400	400
Benzyl alcohol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800[a]	--	61,000[a]	--	3[a]	3[a]
Bis(2-chloroethoxy)methane	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Bis(2-chloroethyl)ether	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.6	0.2	75	0.66	0.0004	0.0004
Bis(2-ethylhexyl)phthalate	< 8.9	< 0.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	46	31,000	4,100	31,000	3,600	31,000
4-Bromophenyl phenyl ether	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Butyl benzyl phthalate	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	16,000	930	410,000	930	930	930
Carbazole	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	32	--	6,200	--	0.6	2.8
4-Chloroaniline	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310	--	820	--	0.7	0.7
4-Chloro-3-methylphenol	< 3.5	< 0.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
2-Chloronaphthalene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,300[a]	--	41,000[a]	--	49[a]	240[a]
2-Chlorophenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	390	53,000	10,000	53,000	4	4
4-Chlorophenyl phenyl ether	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Chrysene	< 0.35	0.82	< 0.041	4.7	< 0.041	0.22	2.0	0.98	1.5	< 0.040	1.5	50	< 0.041	88	--	17,000	--	160	800
Dibenzo(a,h)anthracene	**< 0.35**	**0.24**	< 0.041	**0.89**	< 0.041	< 0.037	**0.59**	**0.28**	**0.44**	< 0.040	**0.45**	**< 0.50**	< 0.041	0.2[b]	--	17	--	2	7.6
Dibenzofuran	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78[a]	--	820[a]	--	3[a]	15[a]
1,2-Dichlorobenzene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,000	560	18,000	310	17	43
1,3-Dichlorobenzene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
1,4-Dichlorobenzene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	11,000	--	340	2	11
3,3´-Dichlorobenzidine	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1	--	280	--	0.007	0.033
2,4-Dichlorophenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	230	--	610	--	1	1
Diethyl phthalate	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	63,000	2,000	1,000,000	2,000	470	470
2,4-Dimethylphenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	--	41,000	--	9	9
Dimethyl phthalate	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	20,000[a]	--	--	--
4,6-Dinitro-2-methylphenol	< 3.5	< 0.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
2,4-Dinitrophenol	< 8.9	< 0.98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	160	--	410	--	0.2	0.2
2,4-Dinitrotoluene	< 0.35	< 0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.9	--	180	--	0.0008	0.0008
2,6-Dinitrotoluene	< 0.35	< 0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.9	--	180	--	0.0007	0.0007
Di-n-butyl phthalate	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	2,300	200,000	2,300	2,300	2,300
Di-n-octyl phthalate	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	10,000	4,100	10,000	10,000	10,000
Fluoranthene	< 0.35	1.6	< 0.041	5.6	< 0.041	0.37	4.0	1.8	3.4	< 0.040	3.0	110	0.093	3,100	--	82,000	--	4,300	21,000
Fluorene	< 0.35	0.087	< 0.041	0.18	< 0.041	< 0.037	0.26	0.063	0.30	< 0.040	0.12	12	< 0.041	3,100	--	82,000	--	560	2,800
Hexachlorobenzene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.4	1	78	2.6	2	11
Hexachlorobutadiene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78[a]	--	200[a]	--	2.2[a]	11[a]
Hexachlorocyclopentadiene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	550	10	14,000	1.1	400	2,200
Hexachloroethane	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78	--	2,000	--	0.5	2.6
Indeno(1,2,3-cd)pyrene	< 0.35	0.43	< 0.041	**1.3**	< 0.041	0.14	**0.92**	0.5	0.76	< 0.040	0.82	**25**	< 0.041	0.86[b]	--	170	--	14	69
Isophorone	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15,600	4,600	410,000	4,600	8	8
2-Methylnaphthalene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310[a]	--	820[a]	--	1.9[a]	9.5[a]
2-Methylphenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,900	--	100,000	--	15	15
4-Methylphenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800[a]	100,000[a]	4,100[a]	3,300[a]	3.9[a]	3.9[a]
Naphthalene	< 0.35	< 0.039	< 0.041	< 0.042	< 0.041	< 0.037	0.047	<0.041	0.23	< 0.040	< 0.041	**5.4**	< 0.041	1,600	170	4,100	1.8	12	18
2-Nitroaniline	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,200[a]	18[a]	31,000[a]	1.5[a]	0.7[a]	0.7[a]
3-Nitroaniline	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
4-Nitroaniline	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	310[a]	1,500[a]	2,000[a]	52[a]	0.14[a]	0.14[a]
2-Nitrophenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
4-Nitrophenol	< 3.5	< 0.39	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Nitrobenzene	< 0.35	< 0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	39	92	1,000	9.4	0.1	0.1
N-Nitrosodi-n-propylamine	< 0.35	< 0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09	--	18	--	0.00005	0.00005
N-Nitrosodiphenylamine	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.013[a]	0.012[a]	1.6[a]	2[a]	0.000007[a]	0.000007[a]
N-Nitrosodiphenylamine	< 0.35	< 0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	130	--	25,000	--	1	5.6
Bis(2-chloroisopropyl)ether	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,100[a]	--	200[a]	--	2.4[a]	2.4[a]
Pentachlorophenol	< 0.35	< 0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3	--	520	--	0.03	0.14
Phenanthrene	< 0.35	0.98	< 0.041	11	< 0.041	0.14	2.3	0.96	3.2	< 0.040	1.7	92	0.087	2,300[a]	--	61,000[a]	--	210[a]	1,100[a]
Phenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	23,000	--	61,000	--	100	100
Pyrene	< 0.35	1.4	< 0.041	9.0	< 0.041	0.33	3.3	1.6	3.3	< 0.040	2.6	99	0.075	2,300	--	61,000	--	4,200	21,000
Pyridine	< 7.2	< 0.79	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78[a]	--	2,000[a]	--	0.028[a]	0.028[a]
1,2,4-Trichlorobenzene	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	780	3,200	2,000	920	5	53
2,4,5-Trichlorophenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	--	200,000	--	270	1,400
2,4,6-Trichlorophenol	< 1.8	< 0.20	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	58	200	11,000	540	0.2	0.77

NOTES

All concentrations listed in mg/kg (ppm).

Tier 1 SROs from 35 IAC 742, Appendix B, Tables A and B.

All samples analyzed pursuant to SW-846 USEPA Method 8270C.

"<" indicates that analyte was not detected at stated detection limit.

"--" indicates value not available in 35 IAC 742.

NS denotes "not sampled" for that analyte.

Bold print indicates analyte exceeded Tier 1 SRO.

[a]Tier I SRO from IEPA issued "Chemicals not in TACO Tier I Tables (revised 10/30/2012).

[b]Tier I SRO from Section 742.Appendix A: Table H - Concentrations of PNA chemicals in background soils.

Table 3

Soil Analytical Results
PCBs / Pesticides
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-6	SB-6	Tier 1 SROs					
Sample Depth (ft)	(0-3)	(3-6)	Residential		Construction Worker		Migration to Groundwater	
Sample Date	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
Aroclor 1016	< 0.085	< 0.094	1	--	1	--	--	--
Aroclor 1221	< 0.085	< 0.094	1	--	1	--	--	--
Aroclor 1232	< 0.085	< 0.094	1	--	1	--	--	--
Aroclor 1242	< 0.085	< 0.094	1	--	1	--	--	--
Aroclor 1248	< 0.085	< 0.094	1	--	1	--	--	--
Aroclor 1254	< 0.085	< 0.094	1	--	1	--	--	--
Aroclor 1260	< 0.085	< 0.094	1	--	1	--	--	--
4,4´-DDD	< 0.0017	< 0.0019	3	--	520	--	16	80
4,4´-DDE	< 0.0017	< 0.0019	2	--	370	--	54	270
4,4´-DDT	< 0.0017	< 0.0019	2	--	100	2,100	32	160
Aldrin	< 0.0017	< 0.0019	0.04	3	6.1	9.3	0.5	2.5
alpha-BHC	< 0.0017	< 0.0019	0.1	0.8	20	2.1	0.0005	0.003
alpha-Chlordane	< 0.0017	< 0.0019	--	--	--	--	--	--
beta-BHC	< 0.0017	< 0.0019	--	--	--	--	--	--
Chlordane	< 0.017	< 0.019	1.8	72	100	22	10	48
delta-BHC	< 0.0017	< 0.0019	--	--	--	--	--	--
Dieldrin	< 0.0017	< 0.0019	0.04	1	7.8	3.1	0.004	0.02
Endosulfan (I & II)	< 0.0034	< 0.0038	470	--	1,200	--	18	90
Endosolfan sulfate	< 0.0017	< 0.0019	--	--	--	--	--	--
Endrin	< 0.0017	< 0.0019	23	--	61	--	1	5
Endrin aldehyde	< 0.0017	< 0.0019	--	--	--	--	--	--
Endrin ketone	< 0.0017	< 0.0019	--	--	--	--	--	--
gamma-BHC	< 0.0017	< 0.0019	0.5	--	96	--	0.009	0.047
gamma-Chlordane	< 0.0017	< 0.0019	--	--	--	--	--	--
Heptachlor	< 0.0017	< 0.0019	0.1	0.1	28	16	23	110
Heptachlor epoxide	< 0.0017	< 0.0019	0.07	5	2.7	13	0.7	3.3
Methoxychlor	< 0.0017	< 0.0019	390	--	1,000	--	160	780
Toxaphene	< 0.035	< 0.039	0.6	89	110	240	31	150

NOTES

All concentrations listed in mg/kg (ppm).
Tier 1 SROs from 35 IAC 742, Appendix B, Tables A and B.
All samples analyzed pursuant to SW-846 USEPA Methods SW8081 and SW8082.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
Blank cells indicate sample not analyzed for that parameter.
Bold print indicates analyte exceeded Tier 1 SRO.

Table 4

Soil Analytical Results
Herbicides
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-6	SB-6	**Tier 1 SROs**					
Sample Depth (ft)	(0-3)	(3-6)	Residential		Construction Worker		Migration to Groundwater	
Sample Date	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
2,4,5-TP (Silvex)	< 0.0035	< 0.0039	630	--	1,600	--	11	55
2,4-D	< 0.0035	< 0.0039	780	--	2,000	--	1.5	7.7
Dalapon	< 0.035	< 0.039	2,300	--	6,100	--	0.85	8.50
Dinoseb	< 0.0071	< 0.0079	78	--	200	--	0.34	3.40
Pentachlorophenol	< 0.011	< 0.012	3	--	520	--	0.03	0.14
Picloram	< 0.0071	< 0.0079	5,500	--	14,000	--	2	20

NOTES

All concentrations listed in mg/kg (ppm).
Tier 1 SROs from 35 IAC 742, Appendix B, Tables A and B.
All samples analyzed pursuant to SW-846 USEPA Methods 8151A.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
Blank cells indicate sample not analyzed for that parameter.
Bold print indicates analyte exceeded Tier 1 SRO.

Table 5

Soil Analytical Results
RCRA Metals
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-1	SB-1	SB-1	SB-2	SB-2	SB-2	SB-3	SB-3	SB-3	SB-4	SB-4	SB-4	SB-5	SB-5	Tier 1 SROs					
Sample Depth (ft)	(0-3)	(3-6)	(6-9)	(0-3)	(3-6)	(6-9)	(3-6)	(6-9)	(9-12)	(0-3)	(3-6)	(6-9)	(0-3)	(6-9)	Residential		Construction Worker		Migration to Groundwater[a]	
Sample Date	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
pH	7.48	8.37	NS	8.36	8.4	NS	8.46	8.41	NS	8.04	8.51	NS	7.75	8.07	--	--	--	--	--	--
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78,000[c]	1,000,000[c]	200,000[c]	870,000[c]	3.5[b, c]	5.0[b, c]
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	31	---	82	--	5	20
Arsenic	7.4	10	NS	3.0	6.0	NS	13	11	NS	**25**	13	NS	6.9	11	13	750	61	25,000	29	120
Barium	310	100	NS	11	150	NS	190	77	NS	920	75	NS	92	54	5,500	690,000	14,000	870,000	1,700	1,700
Beryllium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	160	1,300	410	44,000	140	17,000
Cadmium	1.2	< 0.51	NS	< 0.44	0.61	NS	1.1	< 0.57	NS	3.0	< 0.50	NS	< 0.51	< 0.55	78	1,800	200	59,000	11	110
Calcium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Chromium	25	**30**	23	4.1	22	NS	**34**	**27**	22	**37**	23	NS	9.2	22	230	270	4,100	690	21	--
Cobalt	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,700	--	12,000	--	--	--
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,900	--	8,200	--	200,000	200,000
Cyanide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	--	4,100	--	40	120
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	5[b]	5[b]
Lead	**1,100**	23	NS	15	**530**	17	**330**	20	NS	**2,000**	**120**	18	**170**	19	400	--	700	--	107	1,420
TCLP Lead[b]	**0.41[b]**	NS	NS	NS	NS	NS	NS	NS	NS	**0.39[b]**	NS	NS	NS	NS	--	--	--	--	0.0075[b]	0.1[b]
Magnesium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	325,000	--	730,000	--	--	--
Manganese	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	69,000	4,100	8,700	--	--
Mercury	**2.2**	0.034	NS	<0.020	**0.35**	0.026	**0.17**	0.025	NS	**0.38**	0.045	NS	**0.15**	0.031	23	10	61	0.1	3	16
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	13,000	4,100	440,000	180	3,500
Potassium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Selenium	**8.4**	< 1.0	NS	< 0.89	< 1.0	NS	1.4	< 1.1	NS	1.8	< 1.0	NS	< 1.0	< 1.1	390	--	1,000	--	1.3	1.3
Silver	< 1.1	< 1.0	NS	< 0.89	< 1.0	NS	< 1.1	< 1.1	NS	< 1.2	< 1.0	NS	< 1.0	< 1.1	390	--	1,000	--	13	--
Sodium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Thallium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.3	--	160	--	3.0	30
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	550	--	1,400	--	980	--
Zinc	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	23,000	--	61,000	--	7,500	15,000

NOTES

All concentrations listed in mg/kg (ppm) except TCLP/SPLP results, denoted with 'b.'
Tier 1 SROs from 35 IAC 742, Appendix B, Tables A, B, C and D.
All samples analyzed pursuant to SW-846 USEPA Method 6010B/7470A.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
"NS" indicates "Not Sampled" for that parameter.
Bold / Shaded print indicates analyte exceeded Tier 1 SRO.

[a] Most restrictive value corresponding to detected pH range of 6.9 - 9.0 shown; however, detected levels compared to actual pH-specific Tier 1 SRO for each parameter.

[b] Values in mg/L.

[c] Tier I SRO from IEPA issued "Chemicals not in TACO Tier I Tables (revised 10/30/2012).

Table 5

Soil Analytical Results
RCRA Metals
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	SB-6	SB-6	SB-6	SB-7	SB-7	SB-7	SB-8	SB-8	SB-8	SB-8	SB-9	SB-9	SB-9	SB-10	SB-10	SB-10	**Tier 1 SROs**					
Sample Depth (ft)	(0-3)	(3-6)	(6-9)	(0-3)	(6-9)	(9-12)	(0-3)	(6-9)	(9-12)	(12-15)	(0-3)	(3-6)	(6-9)	(0-3)	(3-6)	(6-9)	Residential		Construction Worker		Migration to Groundwater[a]	
Sample Date	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	12/13/18	Ingestion	Inhalation	Ingestion	Inhalation	Class I	Class II
pH	8.10	7.55	NS	7.82	7.94	NS	7.67	8.10	NS	NS	7.75	8.02	NS	7.76	8.03	NS	--	--	--	--	--	--
Aluminum	1,900	15,000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78,000[c]	1,000,000[c]	200,000[c]	870,000[c]	3.5[b, c]	5.0[b, c]
Antimony	< 1.8	< 2.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	31	---	82	--	5	20
Arsenic	9.9	13	NS	5.2	**27**	9.6	3.7	5.6	NS	NS	**24**	**16**	5.9	8.0	7.5	NS	13	750	61	25,000	29	120
Barium	12	220	NS	98	64	NS	20	130	NS	NS	190	91	NS	110	150	NS	5,500	690,000	14,000	870,000	1,700	1,700
Beryllium	< 0.45	1.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	160	1,300	410	44,000	140	17,000
Cadmium	< 0.45	1.1	NS	0.64	< 0.52	NS	< 0.49	< 0.54	NS	NS	1.7	< 0.55	NS	0.64	1.0	NS	78	1,800	200	59,000	11	110
Calcium	220,000	36,000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Chromium	4.0	29	NS	**37**	23	NS	5.4	13	NS	NS	27	27	NS	17	13	NS	230	270	4,100	690	21	--
Cobalt	5.0	12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,700	--	12,000	--	--	--
Copper	5.3	92	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,900	--	8,200	--	200,000	200,000
Cyanide	<0.27	<0.30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	--	4,100	--	40	120
Iron	5,300	32,000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	5[b]	5[b]
Lead	18	**430**	23	**290**	18	NS	33	**160**	**140**	16	**830**	23	NS	**420**	**1,300**	20	400	--	700	--	107	1,420
TCLP Lead[b]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.45[b]**	NS	--	--	--	--	0.0075[b]	0.1[b]
Magnesium	130,000	20,000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	325,000	--	730,000	--	--	--
Manganese	210	350	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	69,000	4,100	8,700	--	--
Mercury	0.028	**0.33**	<0.024	**0.25**	<0.023	NS	0.044	**0.2**	**0.29**	<0.024	**0.39**	0.054	NS	**0.35**	**0.41**	<0.023	23	10	61	0.1	3	16
Nickel	9.6	35	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	13,000	4,100	440,000	180	3,500
Potassium	850	2,700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Selenium	< 0.89	2.3	<1.1	< 1.1	1.0	NS	< 0.99	< 1.1	NS	NS	< 1.1	< 1.1	NS	< 1.1	< 1.3	NS	390	--	1,000	--	1.3	1.3
Silver	< 0.89	< 1.0	NS	< 1.1	< 1.0	NS	< 0.99	< 1.1	NS	NS	< 1.1	< 1.1	NS	< 1.1	< 1.3	NS	390	--	1,000	--	13	--
Sodium	< 540	480	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	--	--	--	--	--	--
Thallium	< 0.89	< 1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.3	--	160	--	3.0	30
Vanadium	8.5	32	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	550	--	1,400	--	980	--
Zinc	15	340	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	23,000	--	61,000	--	7,500	15,000

NOTES

All concentrations listed in mg/kg (ppm) except TCLP/SPLP results, denoted with 'b.'
Tier 1 SROs from 35 IAC 742, Appendix B, Tables A, B, C and D.
All samples analyzed pursuant to SW-846 USEPA Method 6010B/7470A.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
"NS" indicates "Not Sampled" for that parameter.
Bold / Shaded print indicates analyte exceeded Tier 1 SRO.

[a] Most restrictive value corresponding to detected pH range of 6.9 - 9.0 shown; however, detected levels compared to actual pH-specific Tier 1 SRO for each parameter.

[b] Values in mg/L.

[c] Tier I SRO from IEPA issued "Chemicals not in TACO Tier I Tables (revised 10/30/2012).

Table 6

Groundwater Analytical Results
VOCs / BETX
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	TMW-1	TMW-2	TMW-3	TMW-4	**Tier 1 GROs**		
Sample Date	12/17/18	12/17/18	12/17/18	12/17/18	Class I	Class II	Indoor Inhalation
1,1,1-Trichloroethane	NS	NS	<0.005	NS	0.2	1.0	1,000
1,1,2,2-Tetrachloroethane	NS	NS	<0.005	NS	0.0043[a]	0.0043[a]	--
1,1,2-Trichloroethane	NS	NS	<0.005	NS	0.005	0.05	4,400
1,1-Dichloroethane	NS	NS	<0.005	NS	0.7	3.5	180
1,1-Dichloroethene	NS	NS	<0.005	NS	0.007	0.035	24
1,2-Dichloroethane	NS	NS	<0.005	NS	0.005	0.025	0.054
1,2-Dichloropropane	NS	NS	<0.005	NS	0.005	0.025	0.12
2-Butanone	NS	NS	<0.005	NS	4.2[a]	4.2[a]	10,000
2-Hexanone	NS	NS	<0.005	NS	0.035[a]	0.035[a]	--
Acetone	NS	NS	<0.100	NS	6.3	6.3	1,000,000
Benzene	<0.002	<0.002	<0.002	<0.002	0.005	0.025	0.11
Bromodichloromethane	NS	NS	<0.002	NS	0.0002	0.0002	6,700
Bromoform	NS	NS	<0.002	NS	0.001	0.001	3.1
Bromomethane	NS	NS	<0.005	NS	0.0098	0.049	--
Carbon disulfide	NS	NS	<0.005	NS	0.7	3.5	67
Carbon tetrachloride	NS	NS	<0.005	NS	0.005	0.025	0.02
Chlorobenzene	NS	NS	<0.005	NS	0.1	0.5	26
Chloroethane	NS	NS	<0.005	NS	--	--	--
Chloroform	NS	NS	<0.005	NS	0.0002	0.001	0.07
Chloromethane	NS	NS	<0.005	NS	--	--	--
cis-1,2-Dichloroethene	NS	NS	<0.005	NS	0.07	0.20	3,500
cis & trans-1,3-Dichloropropene	NS	NS	<0.004	NS	0.001	0.005	0.14
Dibromochloromethane	NS	NS	<0.005	NS	0.14	0.14	--
Ethylbenzene	<0.005	<0.005	<0.005	<0.005	0.7	1.0	0.37
4-Methyl-2-pentanone (MIBK)	NS	NS	<0.005	NS	0.56[a]	0.56[a]	--
Methylene chloride	NS	NS	<0.005	NS	0.005	0.050	2.1
Methyl tert-butyl ether	NS	NS	<0.005	NS	0.07	0.07	1,900
Styrene	NS	NS	<0.005	NS	0.1	0.5	310
Tetrachloroethene	NS	NS	<0.002	NS	0.005	0.025	0.091
Toluene	<0.005	<0.005	<0.005	<0.005	1.0	2.5	530
trans-1,2-Dichloroethene	NS	NS	<0.005	NS	0.1	0.5	16
Trichloroethene	NS	NS	<0.002	NS	0.005	0.025	0.34
Vinyl chloride	NS	NS	<0.002	NS	0.002	0.01	0.028
Xylenes, Total	<0.005	<0.005	<0.005	<0.005	10.0	10.0	30

NOTES

All concentrations listed in mg/L (ppm).
Tier 1 GROs from 35 IAC 742, Appendix B, Table E.
All samples analyzed pursuant to SW-846 USEPA Method 8260B.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
"NS" denotes Not Sampled for that parameter.
Bold print indicates analyte exceeded Tier 1 GRO.
[a]Tier I GRO from IEPA issued "Chemicals not in TACO Tier I Tables" (revised 10/30/2012).

Table 7

Groundwater Analytical Results
SVOCs / PNAs
3001-11 W. fifth Ave. / Chicago, Illinois

Sample ID	TMW-1	TMW-2	TMW-3	TMW-4	**Tier 1 GROs**		
Sample Date	12/17/18	12/17/18	12/20/18	12/17/18	Class I	Class II	Indoor Inhalation
Acenaphthene	<0.001	<0.001	<0.010	<0.001	0.42	2.1	--
Acenaphthylene	<0.001	<0.001	<0.010	<0.001	0.21[a]	1.05[a]	--
Anthracene	<0.0005	<0.0005	<0.010	<0.0005	2.1	10.5	--
Benz(a)anthracene	<0.0001	<0.0001	<0.002	<0.0001	0.00013	0.00065	--
Benzo(a)pyrene	<0.0002	<0.0002	<0.003	<0.0002	0.0002	0.0020	--
Benzo(b)fluoranthene	<0.00018	<0.00018	<0.002	<0.00018	0.00018	0.00090	--
Benzo(g,h,i)perylene	<0.0003	<0.0003	<0.010	<0.0003	0.21[a]	1.05[a]	--
Benzo(k)fluoranthene	<0.00017	<0.00017	<0.005	<0.00017	0.00017	0.00085	--
Chrysene	<0.0002	<0.0002	<0.003	<0.0002	0.0015	0.0075	--
Dibenz(a,h)anthracene	<0.0002	<0.0002	<0.010	<0.0002	0.0003	0.0015	--
Fluoranthene	<0.0002	<0.0002	<0.010	<0.0002	0.2800	1.4000	--
Fluorene	<0.002	<0.002	<0.010	<0.002	0.2800	1.4000	--
Indeno(1,2,3-cd)pyrene	<0.0003	<0.0003	<0.010	<0.0003	0.00043	0.00215	--
Naphthalene	<0.001	<0.001	<0.010	<0.001	0.14	0.22	0.075
Phenanthrene	<0.0005	<0.0005	<0.010	<0.0005	0.21[a]	1.05[a]	--
Pyrene	<0.0002	<0.0002	<0.010	<0.0002	0.21	1.05	--
1,2,4-Trichlorobenzene	NS	NS	<0.010	NS	0.070	0.700	1.8
1,2-Dichlorobenzene	NS	NS	<0.010	NS	0.600	1.500	140
1,3-Dichlorobenzene	NS	NS	<0.010	NS	--	--	--
1,3-Dinitrobenzene	NS	NS	<0.010	NS	0.0007[a]	0.0007[a]	--
1,4-Dichlorobenzene	NS	NS	<0.010	NS	0.075	0.375	79
2,4,5-Trichlorophenol	NS	NS	<0.010	NS	0.700	0.700	--
2,4,6-Trichlorophenol	NS	NS	<0.010	NS	0.010	0.010	--
2,4-Dichlorophenol	NS	NS	<0.010	NS	0.021	0.021	--
2,4-Dimethylphenol	NS	NS	<0.010	NS	0.140	0.140	--
2,4-Dinitrophenol	NS	NS	<0.010	NS	0.014	0.014	--
2,4-Dinitrotoluene	NS	NS	<0.0004	NS	0.00002	0.00002	--
2,6-Dinitrotoluene	NS	NS	<0.0007	NS	0.00031	0.00031	--
2-Chloronaphthalene	NS	NS	<0.010	NS	0.56[a]	2.8[a]	--
2-Chlorophenol	NS	NS	<0.010	NS	0.035	0.035	22,000
2-Methylnaphthalene	NS	NS	<0.010	NS	0.028[a]	0.14[a]	25
2-Methylphenol	NS	NS	<0.010	NS	0.350	0.350	26,000
2-Nitroaniline	NS	NS	<0.050	NS	0.105[a]	0.105[a]	--
2-Nitrophenol	NS	NS	<0.010	NS	--	--	--
3,3'- Dichlorobenzidine	NS	NS	<0.020	NS	0.020	0.100	--
4-Methylphenol	NS	NS	< 0.010	NS	0.7[a]	0.7[a]	--
3-Nitroaniline	NS	NS	<0.050	NS	--	--	--
4,6-Dinitro-2-methylphenol	NS	NS	<0.050	NS	--	--	--
4-Bromophenyl phenyl ether	NS	NS	<0.010	NS	--	--	--
4-Chloro-3-methylphenol	NS	NS	<0.020	NS	--	--	--
4-Chloroaniline	NS	NS	<0.020	NS	0.028	0.028	--
4-Chlorophenyl phenyl ether	NS	NS	<0.010	NS	--	--	--
4-Nitroaniline	NS	NS	<0.020	NS	0.028[a]	0.028[a]	--
4-Nitrophenol	NS	NS	<0.050	NS	--	--	--
Benzoic acid	NS	NS	<0.050	NS	28	28	--
Benzyl alcohol	NS	NS	<0.020	NS	0.7[a]	0.7[a]	--
Bis(2-chloroethoxy)methane	NS	NS	<0.010	NS	--	--	--
Bis(2-chloroethyl)ether	NS	NS	<0.010	NS	0.010	0.010	0.083
Bis(2-chloroisopropyl)ether	NS	NS	<0.010	NS	--	--	--
Bis(2-ethylhexyl) phthalate	NS	NS	<0.005	NS	0.006	0.060	--
Butyl benzyl phthalate	NS	NS	<0.010	NS	1.400	7.000	--
Carbazole	NS	NS	<0.010	NS	--	--	--
Dibenzofuran	NS	NS	<0.010	NS	0.007[a]	0.035[a]	--
Diethyl phthalate	NS	NS	<0.010	NS	5.600	5.600	--
Dimethyl phthalate	NS	NS	<0.050	NS	--	--	--
Di-n-butyl phthalate	NS	NS	<0.010	NS	0.700	3.500	--
Di-n-octyl phthalate	NS	NS	<0.010	NS	0.140	0.700	--
Hexachlorobenzene	NS	NS	<0.003	NS	0.00006	0.0003	0.0059
Hexachlorobutadiene	NS	NS	<0.010	NS	0.007[a]	0.035[a]	--
Hexachlorocyclopentadiene	NS	NS	<0.010	NS	0.050	0.500	0.084
Hexachloroethane	NS	NS	<0.0008	NS	0.007	0.035	50
Isophorone	NS	NS	<0.010	NS	1.400	1.400	12,000
Nitrobenzene	NS	NS	<0.010	NS	0.0035	0.0035	0.34
N-Nitrosodi-n-propylamine	NS	NS	<0.0007	NS	0.0018	0.0018	0.044
N-Nitrosodiphenylamine	NS	NS	<0.004	NS	0.0032	0.016	--
Pentachlorophenol	NS	NS	<0.002	NS	0.001	0.005	--
Phenol	NS	NS	<0.010	NS	0.100	0.100	28,000

NOTES

All concentrations listed in mg/L (ppm).
Tier 1 GROs from 35 IAC 742, Appendix B, Table E.
All samples analyzed pursuant to SW-846 USEPA Method 8270C/D.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
Blank cells indicate sample not analyzed for that parameter.
Bold print indicates analyte exceeded Tier 1 GRO.
[a]Tier I GRO from IEPA issued "Chemicals not in TACO Tier I Tables" (revised 10/30/2012)

Table 8

Groundwater Analytical Results
PCBs / Pesticides
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	TMW-3	Tier 1 GROs		
Sample Date	12/27/18	Class I	Class II	Indoor Inhalation
Aroclor 1016	<0.0008	0.0005	0.0025	--
Aroclor 1221	<0.0008	0.0005	0.0025	--
Aroclor 1232	<0.0008	0.0005	0.0025	--
Aroclor 1242	<0.0008	0.0005	0.0025	--
Aroclor 1248	<0.0008	0.0005	0.0025	--
Aroclor 1254	<0.0016	0.0005	0.0025	--
Aroclor 1260	<0.0016	0.0005	0.0025	--
4-4'-DDD	<0.00016	0.0140	0.0700	--
4,4'-DDE	<0.00016	0.0100	0.0500	--
4,4'-DDT	<0.00016	0.0060	0.0300	--
Aldrin	<0.00008	0.0140	0.0700	--
alpha-BHC	<0.00008	0.00011	0.00055	--
beta-BHC	<0.00008	--	--	--
Chlordane	<0.00008	0.0020	0.0100	--
delta-BHC	<0.00008	--	--	--
Dieldrin	<0.00016	0.0090	0.0450	--
Endosulfan (I & II)	<0.00024	0.0420	0.2100	--
Endosulfan sulfate	<0.00016	--	--	--
Endrin	<0.00016	0.0020	0.0100	--
Endrin aldehyde	<0.00016	--	--	--
Endrin ketone	<0.00016	--	--	--
gamma-BHC (Lindane)	<0.00008	0.0002	0.0010	--
Heptachlor	<0.00008	0.0004	0.002	0.0025
Heptachlor epoxide	<0.00008	0.0002	0.001	--
Methoxychlor	<0.0008	0.04	0.2	--
Toxaphene	<0.00016	0.003	0.015	--

NOTES

All concentrations listed in mg/L (ppm).
Tier 1 GROs from 35 IAC 742, Appendix B, Table E.
All samples analyzed pursuant to SW-846 USEPA Methods 8081B/8082A.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
Blank cells indicate sample not analyzed for that parameter.
Bold print indicates analyte exceeded Tier 1 GRO.

Table 9

Groundwater Analytical Results
Herbicides
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	TMW-3	**Tier 1 GROs**		
Sample Date	12/27/18	Class I	Class II	Indoor Inhalation
2,4,5-TP (Silvex)	<0.00010	0.05	0.3	--
2,4-D	<0.0002	0.07	0.35	--
Dalapon	<0.001	0.20	2.0	900,000
Dinoseb	<0.0003	0.007	0.07	--
Pentachlorophenol	<0.0002	0.001	0.005	--
Picloram	<0.0001	0.500	5.00	

NOTES

All concentrations listed in mg/L (ppm).
Tier 1 GROs from 35 IAC 742, Appendix B, Table E.
All samples analyzed pursuant to SW-846 USEPA Methods 8151A.
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
Blank cells indicate sample not analyzed for that parameter.
Bold print indicates analyte exceeded Tier 1 GRO.

Table 10

Groundwater Analytical Results
RCRA Metals
3001-11 W. Fifth Ave. / Chicago, Illinois

Sample ID	TMW-1	TMW-2	TMW-3	TMW-4	Tier 1 GROs		
Sample Date	12/20/18	12/17/18	12/28/18	12/20/18	Class I	Class II	Indoor Inhalation
Aluminum	NS	NS	1.62	NS	3.5[a]	5[a]	--
Antimony	NS	NS	<0.006	NS	0.006	0.024	--
Arsenic	<0.01	<0.01	<0.01	<0.01	0.050	0.200	--
Barium	0.077	0.022	0.041	0.033	2.0	2.0	--
Beryllium	NS	NS	<0.004	NS	0.004	0.500	--
Cadmium	<0.005	<0.005	<0.005	<0.005	0.005	0.050	--
Calcium	NS	NS	416	NS	--	--	--
Chromium	<0.005	<0.005	<0.005	<0.005	0.10	1.0	--
Cobalt	NS	NS	0.011	NS	1.0	1.0	--
Copper	NS	NS	0.009	NS	0.650	0.650	--
Cyanide	NS	NS	<0.005	NS	0.2	0.6	--
Iron	NS	NS	2.18	NS	5.0	5.0	--
Lead	<0.005	**0.013**	**0.035**	**0.008**	0.0075	0.1000	--
Magnesium	NS	NS	234	NS	--	--	--
Manganese	NS	NS	**0.214**	NS	0.15	10.0	--
Mercury	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.010	0.053
Nickel	NS	NS	0.048	NS	0.100	2.0	--
Potassium	NS	NS	14.8	NS	--	--	--
Selenium	<0.01	<0.01	<0.01	<0.01	0.050	0.050	--
Silver	<0.005	<0.005	<0.005	<0.005	0.050	--	--
Sodium	NS	NS	79.3	NS	--	--	--
Thallium	NS	NS	<0.002	NS	0.002	0.020	--
Vanadium	NS	NS	<0.01	NS	0.049	0.100	--
Zinc	NS	NS	1.62	NS	5.0	10.0	--

NOTES

All concentrations listed in mg/L (ppm).
Tier 1 GROs from 35 IAC 742, Appendix B, Table E.
Samples analyzed pursuant to Method SW6010C (Method 7470A for mercury; 335.4R1.0 for cyanide).
"<" indicates that analyte was not detected at stated detection limit.
"--" indicates value not available in 35 IAC 742.
"NS" denotes Not Sampled for that parameter.
Bold / Shaded print indicates analyte exceeded Tier 1 GRO.
[a]Tier I GRO from IEPA issued "Chemicals not in TACO Tier I Tables" (revised 10/30/2012).

APPENDIX A

IEPA SRP DRM-1 and DRM-2 Forms

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Site Remediation Program (SRP)
Application and Services Agreement (DRM-1) Form

For Illinois EPA Use:
Log No. _____
_____ $500 Advance Partial Payment Included
_____ DRM-2 SRP Form Included
_____ DR--3 Request for Assessment Included

This fillable form may be completed online, a copy saved locally, printed and signed before it is submitted to the Remedial Project Management Section at the above address.

I. Site Identification:

Site Name: Resilient Corridor Fifth Avenue Eco Orchard - Southern Parcel County: Cook
Street Address: 3001-11 West Fifth Avenue P.O. Box: _____
City: Chicago State: IL Zip Code: 60612 Approx. site size (acres) 0.35
Illinois Inventory ID Number: NA USEPA ID Number NA
Site Base Map Attached: ☑ Yes ☐ No Illinois EPA Permit(s): _____
LUST/IEMA Incident Number(s), if applicable: _____

II. Remediation Applicant ("RA"):

RA's Name: Mr./Ms. Ms. Kimberly Worthington, P.E., LEED AP Title: Deputy Commissioner, as agent for
Company: City of Chicago, Department of Fleet and Facility Management (2FM)
Street Address: 30 North LaSalle Street, Suite 300 P.O. Box: _____
City: Chicago State: IL Zip Code: 60602-2575 Phone: 312-744-9139
FEIN or SSN: 36-6005820

I hereby certify that I am authorized to sign this application and services agreement. I certify that the proposed project meets the eligibility criteria set forth in Section 58.1(a)(2) of the Environmental Protection Act (415 ILCS 5/58.1(1)(2)) and regulations promulgated thereunder and that this submittal and all attachments were prepared at my direction. In consideration for the Illinois EPA's agreement to provide (subject to applicable law, available resources, and receipt of the advance partial payment) review and evaluation services for activities carried out pursuant to Title 17 of the Illinois Environmental Protection Act (415 ILCS 5/58-58.12), I agree to:

(1) Conform with the procedures of Title 17 of the Illinois Environmental Protection Act (415 ILCS 5/58 - 58.12) and implementing regulations;

(2) Allow for or otherwise arrange site visits or other site evaluations by the Illinois EPA when requested;

(3) Pay any reasonable costs incurred and documented by the Illinois EPA in providing such services; and

(4) Make an advance partial payment to the Illinois EPA for such anticipated services provided in Section V of this application.

As the RA, I understand that I may terminate this services agreement at any time, by notifying the Illinois EPA in writing that services previously requested under the services agreement are no longer wanted. Within 180 days of receipt of the notice, the Illinois EPA shall provide me with a final invoice for services provided until the date of receipt of such notification.

To the best of my knowledge and belief, this request and all attachments are true, accurate and complete. I hereby certify that I have the authority to enter into this agreement.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent conviction is a Class 3 felony. (415 ILCS 5/44(h)).

Kimberly Worthington — RA's Signature: _____ Date: 7/22/19

***In addition to the fees applicable under this Services Agreement, the recipient of a No Further Remediation (NFR) Letter must pay to the Illinois EPA an NFR Assessment in the amount of the lesser of $2500 or an amount equal to the costs incurred by the Illinois EPA under this Agreement (35 IAC 740.615)**

III. Project Objectives:

A. Release Letter Requested.

Please complete one of the subsections by checking applicable boxes and including other information (if necessary, additonal information may be attached to this application form):

☑ Comprehensive No Further Remediation ("NFR") Letter

☐ Focused NFR Letter
Identify the focused contaminants of concern by checking the applicable box(es):

☐ Volatiles ☐ BTEX ☐ PCBs ☐ Metals ☐ Semivolatiles ☐ PNAs
☐ Pesticides ☐ Other (identify) _____

☐ 4(y) Letter
Identify the focused contaminants of concern by checking the applicable box(es):

☐ Volatiles ☐ BTEX ☐ PCBs ☐ Metals ☐ Semivolatiles ☐ PNAs
☐ Pesticides ☐ Other (identify) _____

Identify the media of concern by checking the applicable box(es):

☐ Soil ☐ Sediments ☐ Other: _____

Identify the actions (e.g. drum removal, spill response, etc.):

B. Identify any support services being sought from the Illinois EPA in addition to the review and evaluation services. If necessary, additional information may be attached to this application form.

☑ No additional support services are being sought
☐ Assistance with community relations
☐ Sample collection and analyses
☐ Other (identify): _____

C. Anticipated Schedule

SRP Document	Projected Date of Receipt by Illinois EPA
Site Investigation Report	July 2019
Remediation Objectives Report	July 2019
Remedial Action Plan	August 2019
Remedial Action Completion Report	December 2019

D. Identify the current and post-remedation uses of the remediation site. If necessary, additional information may be attached to this application form.

Current Use:

Vacant land, formerly occupied by a residential and commercial dwellings and stores.

Post-Remediation Use:

Public Space / Stormwater Detention

IV. Written Permission from the Property Owner (check one of the applicable boxes and provide additional information):

☑ RA is the property owner of the remediation site identified in Section 1 of this application

☐ RA is **not** the property owner of the remediation site identified in Section 1 of this application

Property Owner's Name: Mr./Ms. _____ _____ Title: _____

Company: _____

Street Address: _____ P.O. Box: _____

City: _____ State: _____ Zip Code: _____ Phone: _____

I hereby certify that the RA has my permission to enroll the site identified in Section 1 of this application into the Illinois EPA Site Remediation Program. I certify that the RA and designated representatives have permission to enter the indicated premises for the pupose of conducting remedial investigations or activities.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent conviction is a Class 3 felony. (415 ILCS 5/44(h)).

_____ _____

Owner's Signature: Date:

For multiple property owners, attach additional sheets containing all the information above along with a signed, dated certification for each.

V. Advance Partial Payment:

The RA shall select one of the following advance partial payment plans:

☑ Plan 1: A $500 advance partial payment is included with this application. Please make the check payable to: Illinois Environmental Protection Agency". Please include "For Deposit in the Hazardous Waste Fund" and the Remedation Applicant's FEIN or SSN on the check; or

☐ Plan 2: Request that the Illinois EPA determine the appropriate partial payment (i.e., approximately one-half of the total anticipated costs of the Illinois EPA, not to exceed $5,000). A completed DRM-3 form ("Request for Assessment of Advance Partial Payment for Anticipated Services") must accompany this application so that the Illinois EPA may determine the appropriate advance partial payment specific to the services requested.

If this application contains plans and reports for review and evaluation by the Illinois EPA, a completed DRM-2 Form must also accompany this submittal.

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Site Remediation Program Form (DRM-2)
(To be Submitted with all Plans and Reports)

You may complete this form online, save a copy, print, sign and mail it to the address above.

I. Site Identification:

Site Name: Resilient Corridor Fifth Avenue Eco Orchard - Southern Parcel
Street Address: 3001-11 West Fifth Avenue P.O. Box: Not Applicable
City: Chicago State: IL Zip Code: 60612 Phone: Not Applicable
Illinois Inventory ID Number: Not Applicable IEMA Incident Number: Not Applicable

II. Remediation Applicant:

Applicant's Name: Mr./Ms. Ms. Kimberly Worthington, P.E., LEED AP, Deputy Commissioner, as agent for
Company: City of Chicago, Department of Fleet and Facility Management (2FM)
Street Address: 30 North LaSalle Street, Suite 300 P.O. Box: Not Applicable
City: Chicago State: IL Zip Code: 60602-2575 Phone: 312-744-9139
Email Address: kimberly.worthington@cityofchicago.org

I hereby request that the Illinois EPA review and evaluate the attached project documents in accordance with the terms and conditions of the Environmental Protection Act (415 ILCS 5), implementing regulations, and the review and evaluation services agreement.

Remediation Applicant's Signature: Kimberly Worthington Date: 7/22/19

III. Contact Person for Remediation Applicant:

Contact's Name: Mr./Ms. Mr. Paul Waite, P.E.
Company: City of Chicago, Department of Fleet and Facility Management (2FM)
Street Address: 30 North LaSalle Street, Suite 300 P.O. Box: Not Applicable
City: Chicago State: IL Zip Code: 60602-2575 Phone: 312-744-9667
Email Address: Paul.Waite@cityofchicago.org

Contact Person for Consultant:

Contact's Name: Mr./Ms. Mr. Thomas A. Brecheisen, P.E.
Company: Brecheisen Engineering, Inc.
Street Address: 5430 North Sheridan Road, Suite 807 P.O. Box: Not Applicable
City: Chicago State: IL Zip Code: 60640 Phone: 773-334-3944
Email Address: tom@beichicago.com

IV. Review & Evaluation Licensed Professional Engineer or Geologist ("RELPEG"), if applicable:

RELPEG's Name: Mr./Ms. _____
Company: _____
Street Address: _____ P.O. Box: _____
City: _____ State: _____ Zip Code: _____ Phone: _____
Email Address: _____

V. Project Documents Being Submitted:

Document Title: Comprehensive Site Investigation/Remedial Objectives Report
Prepared by: Brecheisen Engineering, Inc.
Date of Preparation of Plan or Report: July 2019
Prepared For: City of Chicago Department of Fleet and Facility Management

Type of Document Submitted:

- [x] Site Investigation Report - Comprehensive
- [ ] Site Investigation Report - Focused
- [x] Remediation Objectives Report - Tier 1 or 2
- [ ] Remediation Objectives Report - Tier 3
- [ ] Remedial Action Plan
- [ ] Remedial Action Completion Report
- [ ] Sampling Plan
- [ ] Health and Safety Plan
- [ ] Community Relations Plan
- [ ] Risk Assessment
- [ ] Containment Fate & Transport Modeling
- [ ] Other: _____

Document Title: _____
Prepared by: _____
Date of Preparation of Plan or Report: _____
Prepared For: _____

Type of Document Submitted:

- [ ] Site Investigation Report - Comprehensive
- [ ] Site Investigation Report - Focused
- [ ] Remediation Objectives Report - Tier 1 or 2
- [ ] Remediation Objectives Report - Tier 3
- [ ] Remedial Action Plan
- [ ] Remedial Action Completion Report
- [ ] Sampling Plan
- [ ] Health and Safety Plan
- [ ] Community Relations Plan
- [ ] Risk Assessment
- [ ] Containment Fate & Transport Modeling
- [ ] Other: _____

Document Title: _____
Prepared by: _____
Date of Preparation of Plan or Report: _____
Prepared For: _____

Type of Document Submitted:

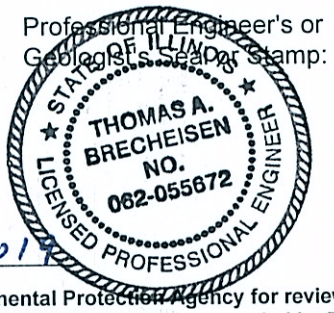
- [ ] Site Investigation Report - Comprehensive
- [ ] Site Investigation Report - Focused
- [ ] Remediation Objectives Report - Tier 1 or 2
- [ ] Remediation Objectives Report - Tier 3
- [ ] Remedial Action Plan
- [ ] Remedial Action Completion Report
- [ ] Sampling Plan
- [ ] Health and Safety Plan
- [ ] Community Relations Plan
- [ ] Risk Assessment
- [ ] Containment Fate & Transport Modeling
- [ ] Other: _____

VI. Professional Engineer's or Geologist's Seal or Stamp:

I attest that all site investigations or remedial activities that are subject of this plan(s) or report(s) were performed under my direction, and this document and all attachments were prepared under my direction or reviewed by me, and to the best of my knowledge and belief, the work described in the plan and report has been designed or completed in accordance with the Illinois Environmental Protection Act (415 ILCS 5), 35 Ill. Adm. Code 740, and generally accepted engineering practices or principles of professional geology, and the information presented is accurate and complete.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 Felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Professional Engineer's or Geologist's Seal or Stamp:



Engineer's or Geologist's Name: Thomas A. Brecheisen

Company: Brecheisen Engineering, Inc.

Registration Number: 062-055672 Phone: 773-334-3944

License Expiration Date: November 30, 2019

Signature: Thomas A. Brecheisen Date: 7/23/2019

Note: The authority of a Licensed Professional Geologist to certify documents submitted to the Illinois Environmental Protection Agency for review and evaluation pursuant to Title XVII of the Environmental Protection Act is limited to Site Investigation Reports (415 ILCS 58.7(f), as amended by P. A. 92-0735, effective July 25, 2002. A Licensed Professional Geologist cannot certify Remediation Objectives Reports, Remedial Action Plans or Remedial Action Completion Reports.

All information submitted is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines. The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.12 of the Environmental Protection Act and regulations proumulgated thereunder. Disclosure of this information is required as a condition of participation in the Site Remediation Program. Failure to do so may prevent this form from being processed and could result in your plan(s) or report(s) being rejected. This form has been approved by the Forms Management Center.

APPENDIX B

Plat of Survey of Remediation Site

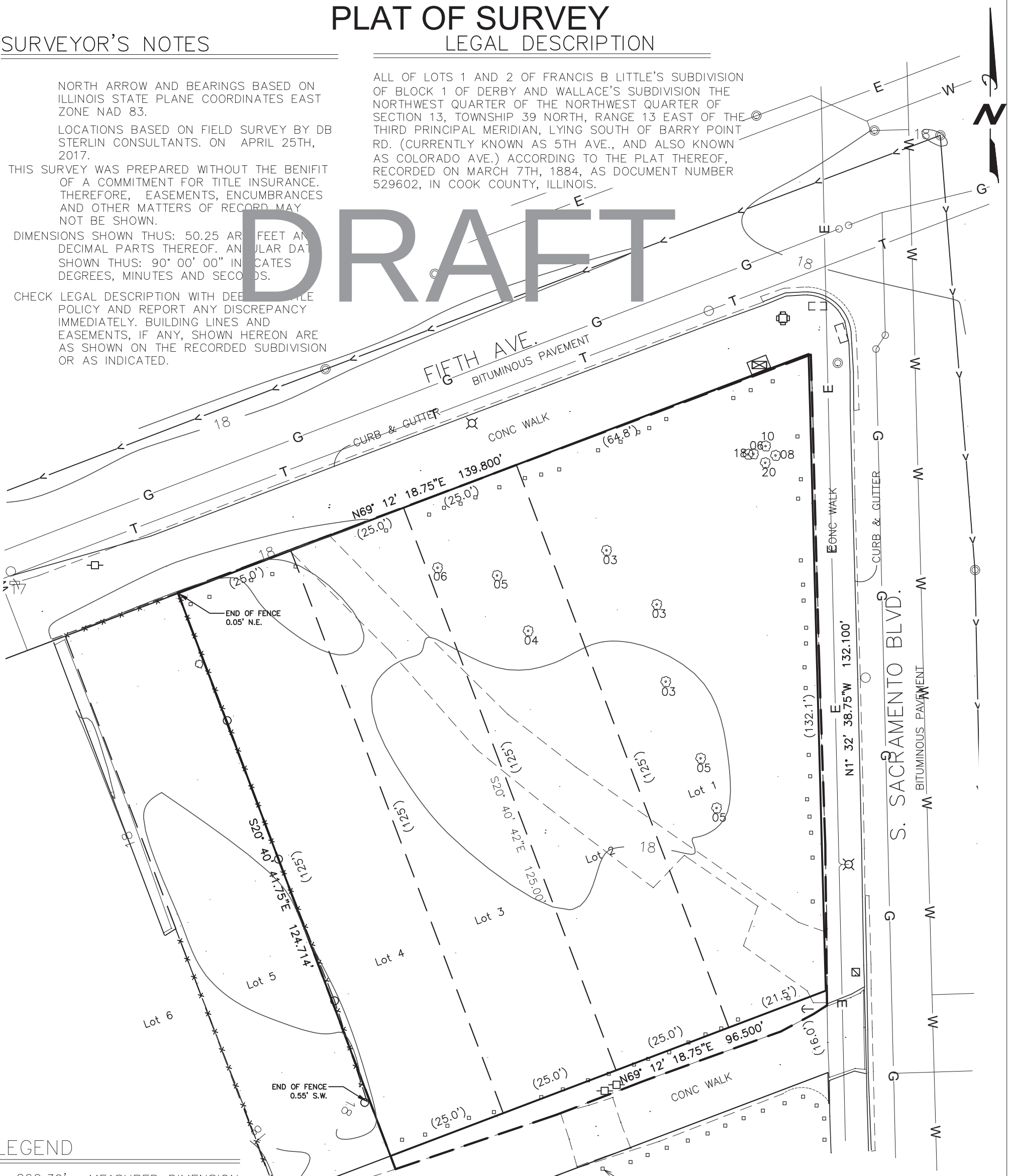
PLAT OF SURVEY

SURVEYOR'S NOTES

1. NORTH ARROW AND BEARINGS BASED ON ILLINOIS STATE PLANE COORDINATES EAST ZONE NAD 83.
2. LOCATIONS BASED ON FIELD SURVEY BY DB STERLIN CONSULTANTS. ON APRIL 25TH, 2017.
3. THIS SURVEY WAS PREPARED WITHOUT THE BENIFIT OF A COMMITMENT FOR TITLE INSURANCE. THEREFORE, EASEMENTS, ENCUMBRANCES AND OTHER MATTERS OF RECORD MAY NOT BE SHOWN.
4. DIMENSIONS SHOWN THUS: 50.25 ARE FEET AND DECIMAL PARTS THEREOF. ANGULAR DATA SHOWN THUS: 90° 00' 00" INDICATES DEGREES, MINUTES AND SECONDS.
5. CHECK LEGAL DESCRIPTION WITH DEED, TITLE POLICY AND REPORT ANY DISCREPANCY IMMEDIATELY. BUILDING LINES AND EASEMENTS, IF ANY, SHOWN HEREON ARE AS SHOWN ON THE RECORDED SUBDIVISION OR AS INDICATED.

LEGAL DESCRIPTION

ALL OF LOTS 1 AND 2 OF FRANCIS B LITTLE'S SUBDIVISION OF BLOCK 1 OF DERBY AND WALLACE'S SUBDIVISION THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 13, TOWNSHIP 39 NORTH, RANGE 13 EAST OF THE THIRD PRINCIPAL MERIDIAN, LYING SOUTH OF BARRY POINT RD. (CURRENTLY KNOWN AS 5TH AVE., AND ALSO KNOWN AS COLORADO AVE.) ACCORDING TO THE PLAT THEREOF, RECORDED ON MARCH 7TH, 1884, AS DOCUMENT NUMBER 529602, IN COOK COUNTY, ILLINOIS.



SCALE: 1"= 20'

LEGEND

262.39'	MEASURED DIMENSION
N89°26'38"E	MEASURED BEARING
(262.90')	RECORD DIMENSION
———	LIMITS OF SURVEY
— — —	REMEDIATION BOUNDARY LIMITS
○	CATCH BASIN
●	BOLLARD
⊙	FIRE HYDRANT
☼	LIGHT POLE
◎	MANHOLE
⊕	POWER POLE
⊣	SIGN
▨	HANDHOLE
⊠	CONTROL BOX
⊡	TRAFFIC SIGNAL
⊙03	VEGETATION TREE AND SIZE
⊙	GAS VALVE

P.I.N.'S

16-13-115-011
16-13-115-010
16-13-115-009

DAVID R. BAUMGARTNER
35-03971
PROFESSIONAL
LAND SURVEYOR
STATE OF ILLINOIS
Renewable
11-30-20
CHICAGO

STATE OF ILLINOIS)
COUNTY OF COOK) SS

WE, DB STERLIN CONSULTANTS, INC., ILLINOIS PROFESSIONAL DESIGN FIRM NUMBER 184-001909, DO HEREBY CERTIFY THAT THE ATTACHED PLAT AND THE SURVEY UPON WHICH IT IS BASED WERE PREPARED AT AND UNDER OUR DIRECTION, AND THAT THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

GIVEN UNDER MY HAND AND SEAL THIS 02ND DAY OF MAY IN CHICAGO, ILLINOIS.

_____

DAVID R. BAUMGARTNER
I.P.LS. NO. 35-03971
LICENSE EXPIRES NOVEMBER 30, 2020

DBS
DB STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1006 FAX. (312)857-1056

PLAT OF SURVEY

REVISIONS			DRAWN BY	DBS/SR
NO.	DATE	DESCRIPTION	CHECKED BY	DBS
			DATE	12/10/2018
			PROJECT NO.	550.003
			SHEET NO.	2 OF 2 SHEETS

APPENDIX C

Water Well Survey Results

From: **Kates, Kelly** Kelly.Kates@Illinois.gov
Subject: Illinois EPA FOIA Response
Date: June 4, 2019 at 9:19 AM
To: tom@beichicago.com

KK

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

June 4, 2019
Brecheisen Engineering, Inc.
Attn: Mr. Thomas Brecheisen
5430 N. Sheridan Rd.
Suite 807
Chicago, IL 60640
Re: Freedom of Information Act Request - 108799
Dear Mr. Brecheisen:
This letter is in response to your Freedom of Information Act (FOIA) (5 ILCS 140/1 et seq.) request dated May 31, 2019 and received by the Illinois Environmental Protection Agency (Illinois EPA) on May 31, 2019.

Following a search, the Illinois EPA has determined there to be no information responsive to your request.

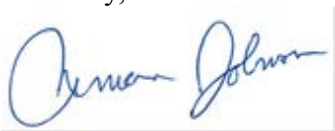
Requested Information
1. Chicago – 3001 West 5th Avenue

The Bureau of Water, Division of Public Water Supplies, files contain information pertaining to community water supplies, not specific sites or addresses. We have no information regarding the referenced property(s) in your request. If you wish to receive any well data relative to particular community water supplies or facilities go to: http://www.epa.state.il.us/water/groundwater/source-water-assessment/index.html.

Information regarding water supply wells can be found on our website at https://www2qa.illinois.gov/epa/topics/water-quality/swap/Pages/default.aspx. Please click on Source Water Assessment Program (Web Mapping Tool) to search and view well information.

Thank you for your patience in this matter.

Sincerely,



Anwar Johnson
Illinois EPA
FOIA Officer
217.558.5101
http://www.epa.illinois.gov/foia/index

From: epa.foia@illinois.gov
Subject: Illinois EPA FOIA Request Received - Thomas Brecheisen
Date: May 31, 2019 at 1:59 PM
To: tom@beichicago.com

Illinois Environmental Protection Agency

FOIA Request Received

Friday, May 31, 2019

Mr. Thomas Brecheisen
Brecheisen Engineering, Inc.
5430 N. Sheridan Rd.
Suite 807
Chicago, IL 60640

Requester Type: Other

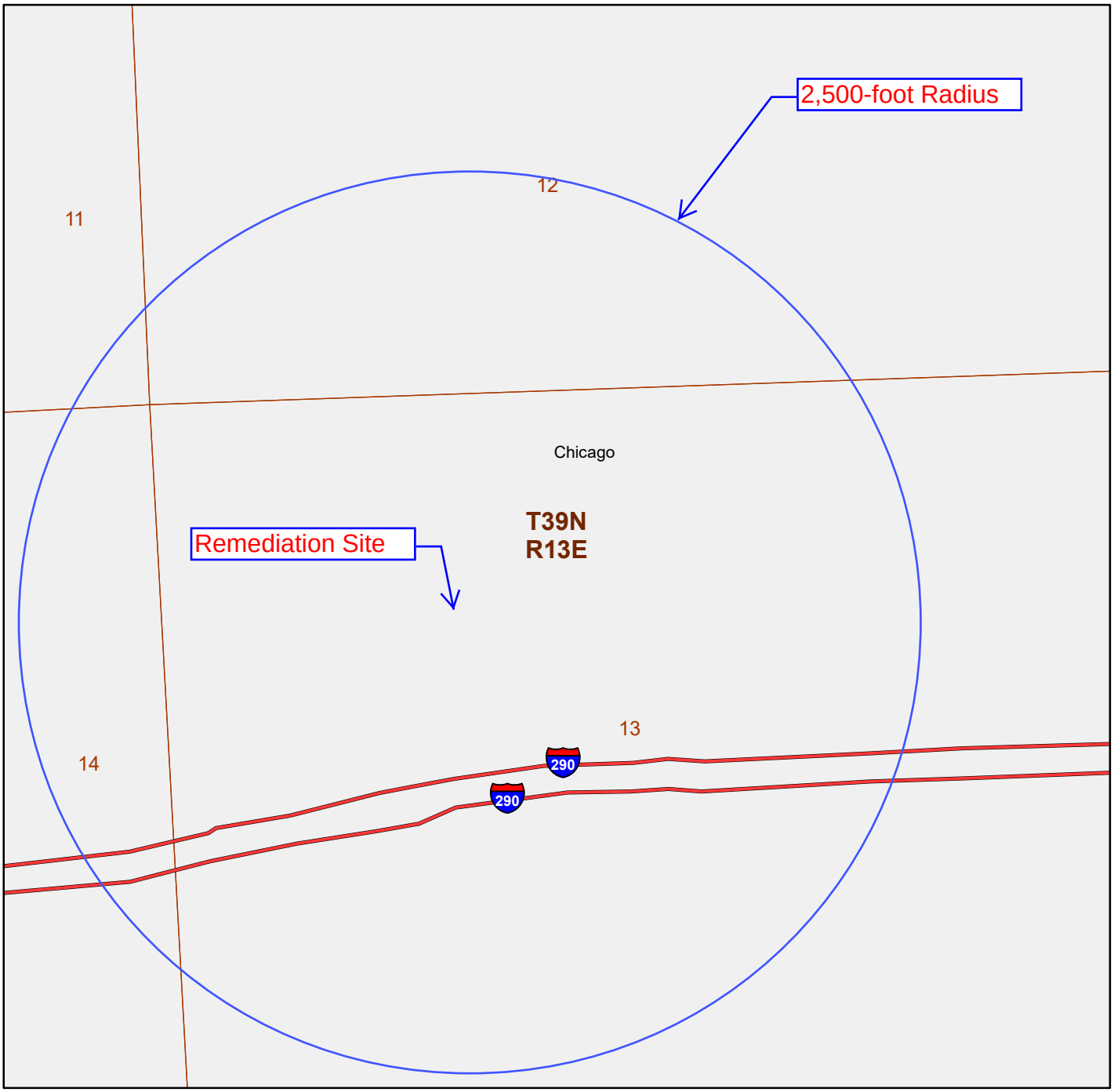
Dear Thomas Brecheisen,

We have received your request for information under the Illinois Freedom of Information Act. Listed below is a summary of what we received in your online request.

Please do not reply to this email. If you have questions about your request please call (217) 558-5101.

Request Summary

Received	5/31/2019 1:59:03 PM
Reference Id(s)	
Date Range	05/31/2019 - 05/31/2019
Request Narrative	From the Illinois EPA's Division of Public Water Supplies, please provide the locations of ALL Community Water Supply Wells, Regulated Recharge Areas, and Wellhead Protection Areas within 2,500-feet of the referenced Site located at 3001 W. Fifth Ave. in Chicago, Illinois 60612.



Explanation

Water	D&A - Gas Show	Junked
Engineering	D&A	Temporarily Abandoned
Oil	Gas Injection	Observation
Oil & Gas	Gas Storage	Other Injection
Gas	Salt Water Disposal	Other Well Type
D&A - Oil Show	Water Injection	Unknown
D&A - Oil & Gas Show	Water Supply	

/ through any symbol indicates well is currently plugged

N

Illinois State Geological Survey

Questor: Custom Map

0 280 560 1,120 1,680 2,240 Feet

Scale: 1:9,495

Displayed data are based upon information supplied to the Illinois State Geological Survey (ISGS) and are not field verified. The ISGS does not guarantee the validity, accuracy, or completeness of these data.

HAYWOOD-WAKEFIELD CO.

TOWN ...cago TOWNSHIP Map No.

COMPANY Haywood Bros, Wakefield R.

FARM J.P.Miller Co. No. T Sec.

AUTHORITY

ELEVATION

COLLECTOR CBA DATE DRILLED May-Aug. 1899

CONFIDENTIAL Deepened 1909 S/2 of Section

No.	County #1744 STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	Clay, sand and gravel	60		60	
	Limestone	375		435	
	Lime, shaly	65		500	
	Shale	55		555	
	Limestone	220		775	
	"Red marl"	05		780	
	Limestone	92		872	
	Shale and sandstone	113		985	
	Shale and limestone	30		1015	
	Limestone	338		1353	
	Sandstone	257		1610	
	Limestone	05		1615	

County COOK Index No. 4c

T.—DRILL RECORD 13-39N-13E

Illinois Geological Survey, Urbana.

P23904-01

to cate?

900 S.

City 2623 Arthington St. ~~County~~ 200 S + 200 E of Arthington + Washtenaw

Section 13 .4c Twp. No. 739N Range R13E

Location (in feet from section corner)

Owner Heywood-Wakefield Co. Authority R. K. Schelke, 12-3-30

Heywood Bros Wakefield (FURNITURE MANF.)

Contractor J.P. Miller Address

Date drilled ? Elev. above sea level top of well

Depth ~~1500 ft~~ 1615 feet

Log

Well has not been in use for past 5 years at least

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water coils, etc.

Date of Analysis Analysis No.

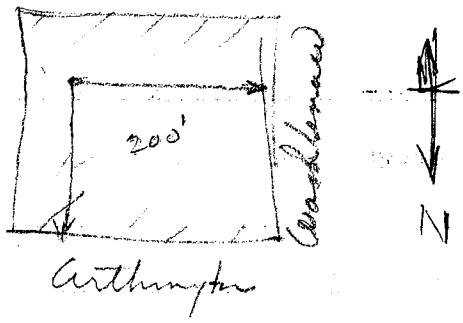
Recorder

Date

2807-19399 12

Cement floor laid over well.

P23904-02



HAYWOOD – WAKEFIELD CO. (1934 INVENTORY)
2623 ARTHINGTON ST, CHGO
COOK COUNTY – T 39 N – R 13 E – SEC. 13: 4C

P23904-03

Final Check in field

City 12th & Campbell (over) Main office. County 265' W & 75' S of Fillmore & Campbell Sts

Section ~~24~~ 13.2a Twp. No. T39N. Range R13E

Location (in feet from section corner)

Owner Aër Motor Co. [WINDMILL MANF.] Authority G. A. Williams, Plant Supt 12-2-30

Contractor Address

Date drilled 1895 Elev. above sea level top of well

Depth 350 feet

Log

Consumption - 200 gpd - 73,000 gals per year

Were drill cuttings saved Where filed

Size hole 5" If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Aermotor Pump Plunger. Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water coils, etc.

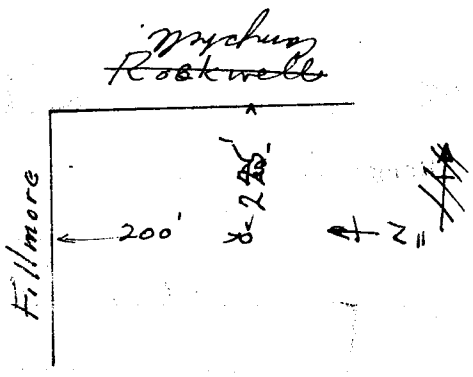
Date of Analysis Analysis No.

Recorder A A Bunsky

2807-19399 12

Date 3/20/34 -

P23905-01



FACILITY ON SANBORN MAP 1897, 1923/1950

AERMOTOR CO. (1930/1934 INVENTORY)
COOK CO.
T39N R13E SEC. 13. 2a

P23905-02

SWS

City Chicago Cou. Cook

Section ~~34~~ 13, 2a Twp. No. 39N Range 13E

Location (in feet from section corner) ~400'? 900' N, 1100' W, SE cor 12th & Campbell

Owner Dermotor Co Authority M. Hamilton

Contractor Address

Date drilled 1895 Elev. above sea level top of well 590

Depth 350 ft

Log Only used for testing pumps & equipment [WINDMILL MANF.]

Were drill cuttings saved Where filed

Size hole 5" If reduced, where and how much

Casing record 5"

Distance to water when not pumping 40' Distance to water is 80'

feet after pumping at 20 G. P. M. for 10 min hours.

Reference point for above measurements

Type of pump Dermotor submersible Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor 2HP Rating of pump in G. P. M.

Can following be measured: (1) Static water level Yes

(2) Pumping level Yes (3) Discharge No

(4) Influence on other wells No

Temperature of water Was water sample collected No

Date Effect of water on meters, hot water coils, etc.

Date of Analysis Analysis No.

Recorder Robert Waaman

Date Dec 3, 1958

2807-22617 12

P23905-03

City 2610 Arthington St (cres) County 450' E + 75' S. of Arthington St + Campbell Av. (MORE LIKE 950' W, N)

Section 13.3c Twp. No. T39N Range R13E

Location (in feet from section corner)

Owner Murray - Nichols Co Authority H. F. Klock, V.P. 12-3-30

Contractor Address

Date drilled Prior to 1912 Elev. above sea level top of well Clarke

Depth 175 feet - 286 ft* Dia 4"

Log

Consumption - ? - For Condensing & Cooling

Were drill cuttings saved: Where filed

Size hole If reduced, where and how much

Casing record To Bed Rock

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Erb Vertical Steam Unit Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M. 70 gpm 30 gpm (1914)

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

Recorder AAB

Date 3/22/34

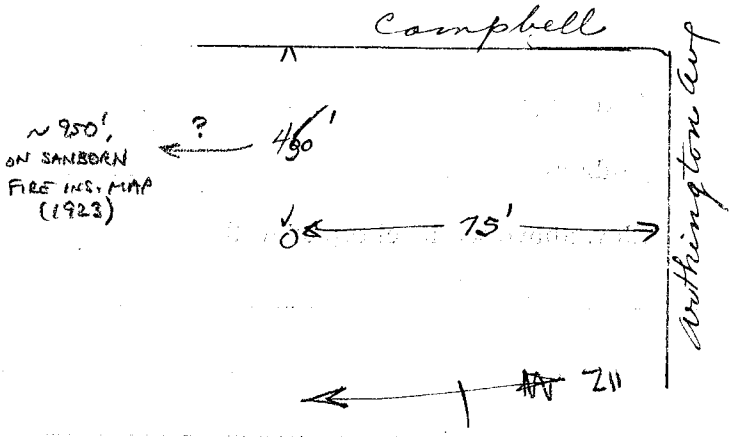
* Bull 34-pg 259. (#73)

2807-19399 12

Have not been in use for past 8 years (1922) Have no more Condensers at this Plant.

P.3378/1-01

Could be used again if needed.



MURRAY-NICHOLS CO.
2610 ARTHINGTON ST. (1930 INVENTORY)
CHGO.
COOK COUNTY - T39N - R13E - SEC. 13.3c

P33781-02

[LATER: SUPERIOR SLEEPRITE CORP.]

City ~~759 So Washtenaw Ave~~ 2650 Polk St. (over) ~~County~~ 460'E & 145'N (per 1935 FIELD VISIT MEMO) 450'E & 80'N of Polk & Washtenaw Sts

Section 13 .3c Twp. No. T 39 N Range R 13 E

Location (in feet from section corner)

Owner Jelke Oleo Co. Authority Frank ~~[illegible]~~ Rezabek, Ch Eng 12-3-30

Contractor Geiger Address

Date drilled 1910 Elev. above sea level top of well

Depth ~~1000 feet, — 6" Dia~~ 1616 feet ~~Dia 6"~~

Log

Consumption:- Used for Cooling & Condensing - Does not run much - not running now

Were drill cuttings saved Where filed

Size hole 6" Dia.? If reduced, where and how much

Casing record 12" Casing to Rock

Distance to water when not pumping below 225 ft Distance to water is

feet after pumping at 250' (1916?) G. P. M. for hours.

Reference point for above measurements

Type of pump Air lift — Eduction 6" Distance to cylinder 430 ft — 90# starting

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M. 175 (1927)

Can following be measured: (1) Static water level yes

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

Recorder AAB

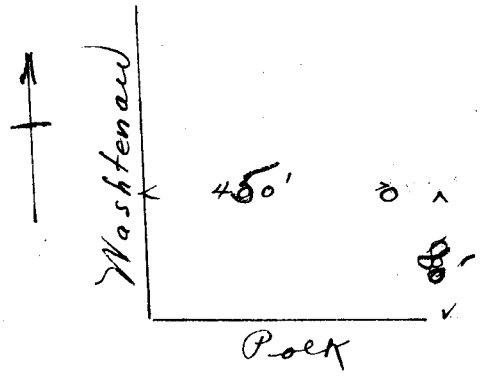
H & H Report pg 20 (55) Date 3/22/34

2807-19399 12

ISGS-Bul. #34 p. 277 — AS JELKE BUTTERINE CO.

Stopped using 3 years ago — {waste from Churn room / after ... condensing [illegible]}

P33797-01



J.F. JELKE CO./
JELKE OLEO CO. (1930/1934 INVENTORY)
↳ SUPERIOR SLEEPRITE CORP. (1958 INVENTORY)
759 S. WASHTENAW AVE. / 2650 W. POLK ST., CHGO
COOK CO. – T39N – R13E. – SEC. 13. 3c
P33797-02

T 39 N
R 13 E
Sec. 13. 3c

April 10, 1935

Memorandum from David W. Evans
on
J. F. Jelke Co. Well

I have visited the J. F. Jelke Co. at 759 S. Washtenaw and inquired about their well. According to the memory of Mr. Frank Rezabek, Engineer, this company has only one well, 1600 feet deep. This well is located in Sec. 13, 3c., T. 39 N., R. 13 E. The exact location is 460 feet east of S. Washtenaw and 145 feet north of Polk Street. All measurements are from the center line of the streets. The casing record is as follows: 12" casing for 60 feet, then 5" casing for 600 feet, then 4" casing for 300 feet giving a total of 960 feet of casing. From the 960 foot depth to the bottom the hole is 3 3/4 inches. The water level was around 400 feet in 1931 and around 200 feet in 1910. This well was completely abandoned in 1918 because of the very small discharge. The temperature of the water was 55 degrees. They do not use this water for drinking and feel it ought not be used in their manufacturing because of the results of a chemical analysis they had made many years ago and have now lost. The water is very hard. This water is pumped by a 2-inch air line 580 feet long with 110 pounds pressure. This company has no record of the log. The well was drilled by Gieger in 1909 or 1910.

? see page 2

i.e. disconnected

This well although abandoned is closed as far as obtaining measurements of water levels are concerned. The pipes would have to be disconnected and Mr. Rezabek is unwilling to do this because they would not use this water even if it were available in large quantity. Note: This well has no discharge pipe other than the casing itself.

David W. Evans.

P33797-03

J. F. JELKE CO.
759 S. WASHTENAW AVE., CHGO.

(2)

COOK COUNTY
T 39N - R 13E - SEC. 13, 3c

A call was made at the office of S. B. Gieger on June 30, 1935 and clerk said they had no log of this well. S. B. Gieger was out and it may be that if he was in he could throw some light on the matter. It may be that the State Geological Survey may have some dope on it.

W. D. Gerber

The following has since been found. — from?

Well finished Nov., 1, 1909

Total depth 1607 feet

Cased with 10" to rock at 70 feet

8" hole to 650 feet, and finished at 5"

A 6" galvanized steel pipe line was 260' long set with bottom 650 feet.

P 33797-04

SWS FILE AS: JELKE OLEO CO.*

City Chicago County Cook

Section 13, 3c Twp. No. 39N Range 13E

Location (in feet from section corner) 1700' N, 1500' W, SE cor 759 N. Washtenaw
*(Formerly J.F. Jelke Co. - Bul 35, P 28)

Owner Superior Sheepskin Corp Authority H. Wright

Contractor S. B. Beiges Address

Date drilled 1909 Elev. above sea level top of well 590

Depth 1607 ft Capped - water level can be measured

Log

Were drill cuttings saved Where filed

Size hole 10" If reduced, where and how much 5"

Casing record 10"

Distance to water when not pumping 477.15 Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements top of well plug

Type of pump None Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level Yes

(2) Pumping level No (3) Discharge No

(4) Influence on other wells

Temperature of water Was water sample collected No

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

Recorder Robert T Saarman

Date Dec 3, 1958

2807-22617 12

P33797-05

C O P Y

Jan. 10, 1945

The Kellogg Box Board Co., 2555 W. Taylor St., is listed in our files as having an 18" x 350' 1500 g.p.m. well. This location is now Apex Smelting Co., 2537 West Taylor St. The street numbers have been changed. In Bull. 35, p. 28, T 39 N, R 13 E, Sec. 13, we list Apex Smelting Co. as 2555 W. Taylor. This should be 2537.

This day an old employee of the both above companies told me the above mentioned well was covered up when the Pennsylvania R. R. Co. elevated their tracks.

The 2100' well listed for Apex Smelting Co. is "at rest" underneath a large power boiler.

/s/ J. B. Millis

P33774

P33783

DIVISION OF WATER SAFETY CONTROL 3-B-6

December 9, 1931

Subject--Private well inspection.

Mr. H. H. Gerstein,
Saitary Engineer.

Dear Sir--

I made an inspection of the Kellogg Box Board Co's private well on December 2, 1931.

Owners Name--Kellogg Box Board Co.

Address--2555 W. Taylor St.

Location of Well--The well is located within the building area, near the east property line about 50 ft. from the street.

Diameter of well--18 inches, Depth,360 ft. Casing,
Diameter of suction line--10 inches.
Length of suction line 310 ft.

Date well drilled-- 7-18-27 By whom--Geo Geiger and Co.
Chicago, Illinois.

Temperature of well water--60°F.

Reasons for use of well water--Manufacturing purposes while plant is running, which was for 1931, approximately three months. Also used for cooling transformers. It is not used for drinking purposes.

Average Daily consumption--650,000 G.P.D. when plant is operating.

Yearly consumption--Depends on operation, pump not used while plant is shut down.

Hours of consumption--Pump operates 22 minutes out of every hour.

Type of pump--14 stage deep well centrifugal pump. Sterling Unit Type, manufactured by Sterling Pump Works, Stockton, California.

Capacity of pump--1500 G.P.M. 1200 R.P.M. 200 H.P. Induction Motor. Head 380 ft.

Sanitary conditions around well opening--O.K. All cross-connections with the City of Chicago supply have been removed.

Name of persons interviewed--E. H. Butterfield, Eng.

Investigator--R. O. Waller
R. O. Waller
Jr. Sanitary Engineer.

P33774 2.

10005

City 2555 W. Taylor St - within building area, near east p.l. about 50 ft from street County

Section 13 Twp. No. T39N Range R13E

Location (in feet from section corner)

Owner ~~Kellogg Box Card Co~~ new name - Paper Boards Inc. Authority E. H. Butterfield, Engr 12-9-31 R. O. Waller, Jr. Sanitary Engr City of Chgo

Contractor G. Geiger + Co (see) Address Chgo

Date drilled 7-18-27 Elev. above sea level top of well

Depth (~~360 ft~~) 2100 ft. Dia 18"

Log (See Geiger)

Daily Consumption:- 650,000 G.P.D. when plant is operating - 22 minutes out of every hr

Were drill cuttings saved Where filed

Size hole 18" If reduced, where and how much

Casing record (360 ft) of 18" casing?

Distance to water when not pumping 100 ft. Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump 14 stage deepwell & suction Sterling Drive - Distance to cylinder 310 feet - 10" pipe - suction 360 ft.

~~Length of cylinder~~ #1453 Type DW. Length of suction pipe below cylinder ?

Length stroke Speed

Hours used per day 22 minutes in each hr Type of power Electric

Rating of motor 200 HP - Rating of pump in G. P. M. 1500 at 1200 RPM head 380 feet

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge difficult

(4) Influence on other wells

Temperature of water 60°F ✓ Was water sample collected

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

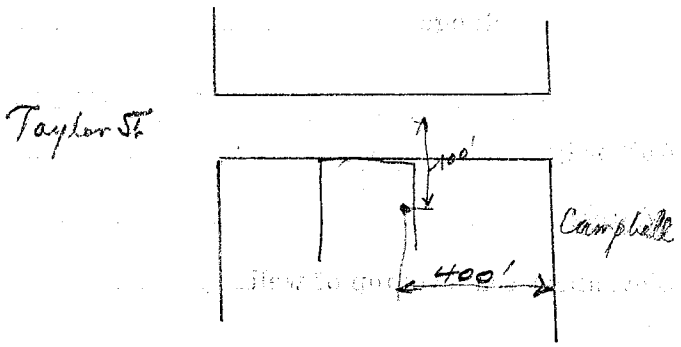
Recorder A.A.B.

2807-19399 12 Date 3-22-34

see ~~E. H. Butterfield~~ Engr ~~Vice Pres.~~ } uses:-
" ~~Walter Hadley Mgr.~~
" Geiger

337783

P33783



P33783

City 2555 Taylor St County North End of Boiler Room

Section 13 Twp. No. T39N Range R13E

Location (in feet from section corner)

Owner Kellogg Box Board - Authority J. M. Seguin, Chf Engr. 2/3/31

Contractor Address

Date drilled 1900 Elev. above sea level top of well

Depth 1963 feet - Dia - 6"

Log

Well went dry about 15 years ago - was used for Boilers

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

Recorder

2807-19399 12 Date

Could not locate

P. 33784

Well - Sealed + Capped

1/95

TMW1

Monitoring Well

WATER WELL SEALING FORM

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
525 WEST JEFFERSON STREET
SPRINGFIELD, ILLINOIS 62761

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

TYPE OR PRESS FIRMLY

This form shall be submitted to this Department or the local health department not more than 30 days after a water well, boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing requirements in the Water Well Construction Code.

1. Ownership (Name of Controlling Party) U.S. Army Corps of Engineers

2. Well Location: Vacant Parcel - bounded by Taylor St. Fairfield Ave, California Ave and Arthington St. (Address - Lot Number) Chicago (City) Cook (County)

General Description: Township T39N (N)(S) Range R13E (E)(W) Section 13 .4b

NW Quarter of the SW Quarter of the SE Quarter

3. Year Drilled 1997

4. Drilling Permit Number (and date, if known) None

5. Type of Well: Bored ✓ Drilled _____ Other _____

6. Total Depth 24 ft. Diameter(inches) 2 in casing

7. Formation clear of obstruction ✓ Yes _____ No

8. DETAILS OF PLUGGING

Filled with backfilled with clay soil (cement or other materials) from 24 ft to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD: Upper 3 feet of casing removed ✓ Yes _____ No
all casing removed

10. Date well was sealed: Month 7 Day _____ Year 1997.
[↑ PRESUMABLY 21; SEE TMW2 SEALING FORM]

11. Licensed water well driller or other person approved by the Department performing well sealing.

Doug Hischke / Tremont Exploration (Name) _____ (Complete License Number)

27268 Allentown Rd. (Address) Tremont (City) IL 61658 (State/Zip)

H28864

This State Agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. Disclosure of this information is mandatory. This form has been approved by the Forms Management Center.

IL 492-0631

1/95

Monitoring Well

TMW2

WATER WELL SEALING FORM

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
525 WEST JEFFERSON STREET
SPRINGFIELD, ILLINOIS 62761

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

TYPE OR PRESS FIRMLY

This form shall be submitted to this Department or the local health department not more than 30 days after a water well, boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing requirements in the Water Well Construction Code.

1. Ownership (Name of Controlling Party) U.S. Army Corps of Engineers

2. Well Location: Vacant Parcel - bounded by Taylor St., Washtenaw Ave, Arthington St., Railroad (Address - Lot Number) Chicago (City) Cook (County)

   General Description: Township T39N (N)(S) Range R13E (E)(W) Section 13.36

   NE Quarter of the SW Quarter of the SE Quarter

3. Year Drilled 1997

4. Drilling Permit Number (and date, if known) None

5. Type of Well: Bored ✓ Drilled ____ Other ____

6. Total Depth 23.3 Diameter(inches) ____

7. Formation clear of obstruction ____ Yes ✓ No Concrete, rebar

8. DETAILS OF PLUGGING

   Filled with backfilled with clay soil (cement or other materials) from 23.3 to 0 ft.

   Kind of plug ____ from ____ to ____ ft.

   Filled with ____ from ____ to ____ ft.

   Kind of plug ____ from ____ to ____ ft.

   Filled with ____ from ____ to ____ ft.

   Kind of plug ____ from ____ to ____ ft.

9. CASING RECORD: Upper 3 feet of casing removed ✓ Yes ____ No — all casing removed

10. Date well was sealed: Month 7 Day 21 Year 1997.

11. Licensed water well driller or other person approved by the Department performing well sealing.

Doug Hischke / Tremont Exploration
Name — Complete License Number

27268 Allentown Rd. — Tremont — IL 61658
Address — City — State/Zip

P098805

This State Agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. Disclosure of this information is mandatory. This form has been approved by the Forms Management Center.

IL 482-0631

City 445 N Sacramento Blvd — ~~County~~ Location:- Unknown

Section 12 ~.5f Twp. No. T39N Range R13E

Location (in feet from section corner)

Owner Griffin Wheel Co Authority G. J. Weber, Operating Ass't

Contractor Address

Date drilled Elev. above sea level top of well

Depth 1738

Log No record of abandonment - no inf. on location

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

H&W Report pg 18 #42

Recorder

2807-19399 12

Date

P337644-01

Used City Water for last 10 years

Cok 39N13E-12 ~.5f
12-39-13

Cook

February 11, 1914

BOILER WATER ANALYSIS

Sample of water collected from the Griffin Wheel Co.,1738' well, 445 North Sacramento Blvd., Chicago, Illinois.

LABORATORY NO. 26886

Determinations Made		Pts.per million
Magnesium*	Mg	212.
Iron	Fe	.4
Nitrate Nitrogen		.0
Nitrate	NO_3	.0
Chlorine	Cl	210.
Sulfate	SO_4	564.5
Residue		1389.
Alkalinity*		218.
Non-carbonate hardness*		344.

*As $CaCO_3$

Hypothetical Combinations		Pts.per million	Grs.per gallon
Sodium Chloride	NaCl	346.5	20.21
Sodium Sulfate	Na_2SO_4	347.3	20.26
Magnes'm Sulfate	$MgSO_4$	254.4	14.83
Calcium Sulfate	$CaSO_4$	179.5	10.47
Calcium Carbonate	$CaCO_3$	218.0	12.72
Iron Carbonate	$FeCO_3$	.8	.05
Undetermined		42.5	2.48
Total		1389.0	81.02

STATE WATER SURVEY DIVISION

H. P. Corson, Chemist

HPC/

P33764-02

City 7639 W. Grand Ave. ~~County~~ In back of switchboard in power house

Section 12 .39 Twp. No. T39N Range R13E

Location (in feet from section corner)

Owner Mechanical Rubber Co Authority G. F. Payer, Custodean 7/31

Contractor Address

Date drilled 1900 Elev. above sea level top of well

Depth 1260 ft - Dia - 6"

~~Log~~ Was used for drinking water, Cost too much to run air compressor

Well sealed & Capped.

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

Recorder

Date

H & M Report page 21 #63

2807-1939 12

P33790

City 3132 W. Lake St. ~~County~~ East side of Ldy in Boiler room

Section 12 .8c Twp. No. T39N Range R13E

Location (in feet from section corner)

Owner Schreever (SCHRIVER) Laundry Co Authority A.J. McCarthy - 2-2-31

Contractor Address

Date drilled 1905 Elev. above sea level top of well

Depth 400 ft Dia - 3"

Log

Last used 1922. Sealed & Capped - Did use for washing but water was too hard

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No.

Recorder

2807-19399 12 Date

P3343

4/2000

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
525 W. JEFFERSON ST.
SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

This form shall be submitted to this Department or the local health department not more than 30 days after a water well, boring or monitoring well is sealed. Such wells are to be sealed not more than 30 days after they are abandoned in accordance with the sealing requirements in the Water Well Construction Code. THE LOCAL HEALTH DEPARTMENT OR REGIONAL PUBLIC HEALTH DEPARTMENT MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO SEALING.

1. Ownership (Name of Controlling Party) GWT SPE, LLC

2. Well Location 500 N. SACRAMENTO (Address - Lot Number) CHICAGO (City) COOK (County)

General Description Township 39N (N)(S) Range 13E (E)(W) Section 12

NE Quarter of the SW Quarter of the NW Quarter 7f

3. Year Drilled 2009

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled ✓ Other _____

6. Total Depth 15' Diameter (inches) 2"

7. Formation clear of obstruction ✓ Yes _____ No

8. DETAILS OF PLUGGING

Filled with BENTONITE CHIPS (cement or other materials) from 15' to 1' ft.

Kind of plug CONCRETE from 1' to 0' ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed ✓ Yes _____ No

10. Date well was sealed Month 07 Day 06 Year 10.

11. Licensed water well driller or other person approved by the Department performing well sealing.

MARC NATALI (Name) N/A-Environmental Well (Complete License Number)

P.O. BOX 294 (Address) HINSDALE (City) IL. 60522-0294 (State/ZIP)

RECEIVED
AUG 16 2010
Division of Environmental Health

This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. Disclosure of this information is mandatory. This form has been approved by the Forms Management Center. IL 482-0631

R 459 28

Printed by Authority of the State of Illinois
P.O. #530379 9.6M 4/00

MOORE'S MODERN METHODS

TOWN Chicago TOWNSHIP Co.No.#02840 Map No. 15

COMPANY S. B. Geiger & Co. No. R. 13 E

FARM Bunte Bros. No. / T. Sec.

AUTHORITY S.B.Geiger files 39 11

ELEVATION N

COLLECTOR Workman DATE DRILLED 1922

CONFIDENTIAL

~~Franklin Blvd. & Homan Ave.~~

No. N. side C. & N. W. track STRATA

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	Surface	34		34	
	Grqvel	6		40	
	Limestone	365		405	
	Shale	180		585	
	Limestone	325		910	
	Sand	90		1000	
	Cave	15		1015	
	Limestone	290		1305	
	Sand	245		1550	
	Limestone	300		1850	
	Sand	109		1959	
	60' 15" I.D.				
	104'6" 11" pipe				
	100'3" 10" pipe				
	60' 8 at 1000' cave				
	540 of 7" water line				
	480 of 2" air line				
	700 gpm				

County COOK Index No. 1511

T.—DRILL RECORD

47327—10M—4-35 4 Illinois Geological Survey, Urbana.

P24213

#1

Twp.

City _____ County _____

Section 11, 2e Twp. No. 39 N Range 13 E

Location (in feet from section corner) Approx. 1100' W + 2400' S of NE corner of Sec 11

Owner Bunte Bros. Authority _____

Contractor S. B. Geiger Bros. Address _____

Date drilled _____ Elev. above sea level top of well _____

Depth 1959'

Log Index 1511

over

Were drill cuttings saved _____ Where filed _____

Size hole _____ If reduced, where and how much _____

Casing record 15"-I.D. 60'; [illegible]"-109'; [illegible]"-100'

Distance to water when not pumping _____ Distance to water is _____

feet after pumping at 700 G. P. M. for _____ hours.

Reference point for above measurements _____

Type of pump _____ Distance to cylinder _____

Length of cylinder _____ Length of suction pipe below cylinder _____

Length stroke _____ Speed _____

Hours used per day _____ Type of power _____

Rating of motor _____ Rating of pump in G. P. M. _____

Can following be measured: (1) Static water level _____

(2) Pumping level _____ (3) Discharge _____

(4) Influence on other wells _____

Temperature of water _____ Was water sample collected _____

Date _____ Effect of water on meters, hot water coils, etc. _____

Date of Analysis _____ Analysis No. _____

Recorder _____

2807-22617 12

Date _____

21423

COOK COUNTY
T39N - R13E. - Sec. 11. 2e

BUNTE BROS. CANDY CO. #1
3301 - 3347 W. FRANKLIN BLVD., CHGO

Surface	34'	34'
Gravel	6	40
Limestone	365	405
Shale	180	585
Limestone	325	910
Sand	90	1000
Cave	15	1015
Limestone	290	1305
Sand	245	1550
Limestone	300	1850
Sand	109	1959

540' of 7" water line
480' of 2" air line

CO#: 02840

P24213

#1

City 3301 Franklin Blvd., (over) County 125 ' N. of CNW RR, 150' E of Homan Av. & @ 300 ft. S. of Franklin Blvd.

Section 11 .2e Twp. No. T 39 N. Range R 13 E.

Location (in feet from section corner)

Owner Bunte Bros. [#1] Authority J.R. Moore, Engineer.

Contractor Geiger J.P.Miller Address

Date drilled 1919 1926 Elev. above sea level top of well

Depth 1959 ft. also 1950 ft.? originally finished to 1962 ft.

Log On file S.G.S. 40 ft to limestone rock

Redrilled in 1926 to 22" to rock at 40 ft.

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record from SBG. 60 ft of 16" 9-D pipe; 104.5 ft of 12" ; 100.25 ft of 10" pipe and 70 ft of 8" pipe to case off cave as shown in log at 1000 ft.

Distance to water when not pumping 220 ft Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements surface.

Type of pump Worthington Turbine. Distance to ~~cylinder~~ 326 ft of 8" col pipe plus

Length of ~~cylinder~~ 13 stages of 8" bowls Length of suction pipe below cylinder 20 ft .

Length stroke Speed

Hours used per day 24 Type of power Electric

Rating of motor 125 h.p. Rating of pump in G. P. M. 800

Can following be measured: (1) Static water level yes

(2) Pumping level air line removed, said to drop about 100 ft. (3) Discharge no.

(4) Influence on other wells ?

Temperature of water 60 F. Was water sample collected

Date Effect of water on meters, hot water coils, etc.

Date of Analysis Analysis No.

See H & W Report page 9.

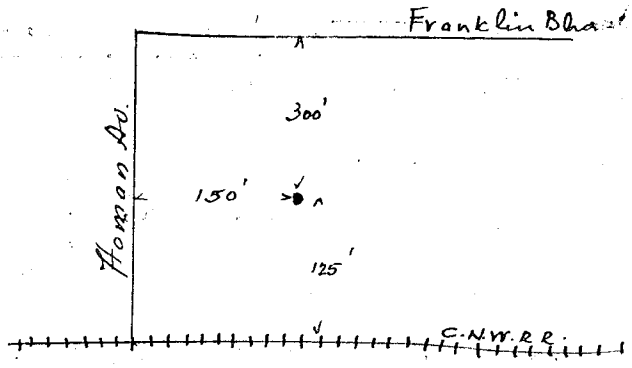
Recorder A.A.B.

2807-19399 12 Date 3/21/34

Used for condensers, & etc. no drinking or process

Pa 4213

BUNTE BROS./BUNTE CANDY CO. #1 (1934 INVENTORY)
3301-3347 W. FRANKLIN BLVD., CHGO



When the well was first drilled, it was equipped with an air lift consisting of 540 ft of 7" water line and 480 ft of 2" air line producing about 700 g.p.m. From S.B.Geiger

Record of S.W.Levels:-

215 ft below surface in 1933
222 ft " " in 1926
222 ft. " " in 1919.

P2213

Bunte Bros., Franklin Blvd. & Homan Ave., N. side C.& N.W. track, Chicago, Illinois.
Authority: S.B.Geiger Company
Location: Section 11, T.39N, R.13E.

ISGS cor#: 02840

Strata	Thickness Feet	In.	Depth Feet	In.
Surface	34		34	
Gravel	6		40	
Lime stone	365		405	
Shale	180		585	
Limestone	325		910	
Sand	90		1000	
Cave	15		1015	
Limestone	390		1305	
Sand	245		1550	
Limestone	300		1850	
Sand	109		1959	

60' 15" I.D.
104'6" 11" pipe
100'3" 10 pipe
60' 8" pipe at 1000' cave

540 of 7" water line
480 of 2" air line
700 gpm.

P24213

At the time of visit on June 19 1935 the well was equipped with a Worthington 13 stage - 12" deep well turbine pump. The assembly consisted of 326 ft of Column, 15 feet of bowles and 20 feet of 8" suction pipe. The pump base is in a ~~pit~~ concrete pit about 8 feet below ground surface. A Northwestern Electric Co Motor (Milwaukee) is direct connected to the pump over head. The motor operates on 220 Volt DC current and is rated at 125 HP at 1650 to 1800 RPM.

The well is located in power plant building about 125 feet east of east line of N. Homan Ave and about 400 feet south of the south line of Franklin Boulevard.

The well furnishes water for condenser use only @ 500 g.p.m. Chicago City water is used for personal and candy making uses.

Frank Konkolity assistant Engineer.

Mr Gerber to fill this out. Boiler

City Chicago County Cook

Section 11 . 2e Twp. No. 39 N Range 13 E

Location (in feet from section corner) 125' E of Eline Howard & 400' S of So line Franklin Blvd

Owner Bunte Candy Co Authority Bank Conditioning Plant Engr

Contractor AB Geiger Address 37 W Van Buren St Chicago

Date drilled 1920 Elev. above sea level top of well

Depth 1962'

Log

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements Ground -

Type of pump Worthington Turbine Distance to ~~cylinder~~ top of turbine from pump base 326'

Length of ~~cylinder~~ turbine 13 stages 12" @ 15' Length of suction pipe below ~~cylinder~~ turbine 20' & 8"

Length stroke Speed 1650 R.P.M. normal speed

Hours used per day 24 Type of power Electric Motor

Rating of motor 125 HP D.C. Rating of pump in G. P. M. 500

Can following be measured: (1) Static water level No not now.

(2) Pumping level No (3) Discharge No.

(4) Influence on other wells

Temperature of water 59° Was water sample collected Yes

Date 6/21/35 Effect of water on meters, hot water

coils, etc.

Date of Analysis Analysis No. 76213-

Recorder M A. Churchill

Date JUN 22 1935

2807-22617 12

A 24213

BUNTE CANDY CO.
3301 W. FRANKLIN BLVD, CHGO

#1

Mr Jauk Konkolitz the plant Engineer gave me approximate log as follows

0 – 40	Drift
40 – 400	Limestone
400 – 500	Shale
1000 – 1100	Shale

Send Copy of Analysis to Jauk Konkolitz Plant Engr
Bunte Bros Candy Co 3300 Franklin Boulevard
Chicago Ill

P24213

Cor 39N 13E-11.2e

1890 ft. (?)
of memo. 5/11/37

June 29, 1935

BOILER WATER ANALYSIS

Sample of water collected June 31, 1935 by Mr. H.A.Churchill from a well owned by the Dante Candy Company and located 125'E. of E. line Homan & 400'S. of S. line Franklin Blvd., Section 11, T. 39N, R. 13 E., Chicago, Cook County, Illinois. Depth: 1962'.

LABORATORY NO. 76213.

Determinations made		Pts.per million
Iron	Fe	0.2
Manganese	Mn	0.0
Silica	SiO_2	10.0
Turbidity		2.0
Color		0.5
Odor		1 V
Calcium	Ca	159.5
Magnesium	Mg	45.2
Ammonium	NH_4	0.8
Sodium	Na	309.3
Sulfate	SO_4	513.5
Nitrate	NO_3	0.9
Chloride	Cl	345.0
Alkalinity as $CaCO_3$		
Phenolphthalein		0.0
Methyl Orange		230.0
Residue		1570.0
Total Hardness		565.0

Hypothetical Combinations			Pts.per million	Grs.per gallon
Sodium Nitrate	$NaNO_3$		0.9	0.05
Sodium Chloride	NaCl		568.6	33.15
Sodium Sulfate	Na_2SO_4		363.4	15.35
Ammon'm Sulfate	$(NH_4)_2SO_4$		2.6	0.15
Magnes'm Sulfate	$MgSO_4$		223.8	13.04
Calcium Sulfate	$CaSO_4$		219.0	12.77
Calcium Carbonate	$CaCO_3$		238.1	13.89
Iron Oxide	Fe_2O_3		0.3	0.02
Manganese Oxide	MnO		0.0	0.00
Silica	SiO_2		10.0	0.58
Total			1536.7	89.00

SOFTENING REQUIREMENTS.

Lime = 2.30 lbs. per 1,000 Gals.
Soda Ash = 3.22 lbs. per 1,000 Gals.

STATE WATER SURVEY DIVISION

T.E. Larson, Chemist

TEL/CH

P24813

T 39 N - R 13 E
Sec. 11. 2e

July 1, 1936

CHEMICAL OPINION

Laboratory No. 76213

The chemical analysis of the water drawn from the 1962' well owned by the Sunte Sandy Company shows it to be highly mineralized and very hard.

This water would consume an exceptionally large amount of soap and would produce a large amount of hard scale in boilers and hot water heaters.

The chemical quality of this water may be somewhat improved by proper chemical treatment. The type of treatment would depend on the volume and intended use of the water.

STATE WATER SURVEY DIVISION

T.J. Larson, Chemist.

TJL*GD

P2413

31B

WELL INVENTORY SCHEDULE

Well No. Cok 39N13E-11.2e1
Owner's No. 1

Location Chicago County Cook

Feet from Sec. Cor. 2400'S, 1200'W, NE cor

Owner Brunte Candy Co Address 3301 W. Franklin

Driller S. B. Geiger Address

Date drilled 1919 Method

Depth 1959 Hole record

Casing record Plant closed 1961

Screen record

Log Drill cuttings Sample set no.

Chief aquifer from to Other aquifer

Land surface elev. 600 Topography

Nonpumping level above/below measuring point on (date) at AM/PM

Pumping level above/below measuring point after pumping at

gpm for hours on (date) at AM/PM

Measuring point (MP) for above measurements

Airline and measuring equipment

Pump and power

Use of water

Water quality

Analysis No. and date Temp.

Data collected by RZ Date 3-11-58

Source of information Lee Phillips

Can well be used in pumping test? Are nearby observation wells available? Are pumping records available?

Are water level records available?

Remarks:

								h
								g
								f
								e
								d
								c
								b
								a
8	7	6	5	4	3	2	1	

P2423

C.A
39 N R 13 E

May 13, 1937

Mr. C. P. Miller
J. P. Miller Artesian Well Company
25 West Illinois Street
Chicago, Illinois

Dear Mr. Miller:

This office has been supplied with a memorandum report on the Bunte Candy Company well, about which you inquired in a letter to the Geological Survey, dated May 7, 1937. A copy of this report is here attached.

It has been the understanding of the State Water Survey that a large part of the well water at this plant was obtained from the Dresbach Sandstone. The temperature of the water is low for this aquifer and indicates as the memorandum mentions that the warm deep waters are cooled by the colder waters from areas at less depth.

Yours very truly,
STATE WATER SURVEY DIVISION

Winfred D. Gerber, Engineer

WDG:w
Enc.

COPY

FOR THE INFORMATION OF

DEPARTMENT OF
REGISTRATION AND EDUCATION
JOHN J. HALLIHAN, DIRECTOR
SPRINGFIELD

BOARD OF NATURAL RESOURCES
AND CONSERVATION
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HENRY HORNER, GOVERNOR

STATE GEOLOGICAL SURVEY DIVISION
M. M. LEIGHTON, CHIEF
305 CERAMICS BUILDING
UNIVERSITY OF ILLINOIS CAMPUS
URBANA

May 11, 1937

Memorandum to State Water Survey

Sources of water in the well of the Bunte Candy Company, Chicago; for the information of the J. P. Miller Artesian Well Company, Chicago

In a letter dated May 7, the J. P. Miller Artesian Well Company makes the following statements regarding water in the Bunte Candy Company well:

"Just recently they have installed a Turbine Pump in this well and from all indications the well is not producing the amount of water that it should. At the same time the temperature of the water is around 60° which would indicate some of the supply is coming from the 1800 foot sandstone formation."

Inasmuch as this well was drilled to a total depth of 1890 feet, it is probably bottomed in the Eau Claire formation which is not water-bearing in this locality. The temperature of the water would indicate that the well obtains no water from the Mt. Simon sandstone under the Eau Claire. It will be noted on page 45 of our Bulletin 34, "Artesian Waters of Northeastern Illinois," that wells ending at 1400 to 1700 feet (in the Galesville or Dresbach sandstone) give water with temperature about 59° to 59.8°, whereas wells drilled into the Mt. Simon sandstone at depths of 1942 feet and lower give water having a temperature of 62° to 65°. Of course, the temperature of water from the Bunte Candy Company well is probably modified by colder waters from above the Galesville but the same condition was true of the wells cited in Bulletin 34.

It therefore appears that the lowest water coming into the well is from Galesville (Dresbach) sandstone, the base of which is shown by the cuttings to lie at a depth of 1545 feet.

L. E. Workman

L. E. Workman
Associate Geologist
Subsurface Division

Weekly Report 7/13-19-52 July 19, 1952

5. Bunte Bros. Chicago. Page 27, Bul. 35, Sec. 11, T. 39 N., R. 13 E. These people report they pump well water at the rate of 500 gpm. every day of the year or 720,000 gpd. They also advise their SWL is 400' below surface and drawdown is 10'. Mr. Adolph Pfitzer is Plant Engineer.

/s/ J. B. Millis

City Chicago County Cook

Section 11, 2 & 2 Twp. No. 39N Range 13E

2400 S, 1200 W, NE cor — (?)

Location (in feet from section corner) 3301 W. Franklin Blvd.

Owner Bunte (BROS.) Candy Co #2 Authority KE3-5200

Contractor J. P. Miller Art. Well Co. Address Brookfield, Ill

Date drilled 5-1936 Elev. above sea level top of well 600'

Depth ~~Depth~~ 1951'

Log (0 - 33' - Drift)(33' to 395' Limestone)(395 to 560 Shale)(560 to 890 Limestone)(890 to 1050 Sandstone)(1050 to 1345 Lime, Shale, Sand)(1345 to 1545 Limestone)(1545 to 1951 Lafayette Formation)

Were drill cuttings saved yes Where filed State Geological Survey.

Size hole 15" If reduced, where and how much Reduced to 10½ at 567, Red. to 8" at 1030

Casing record (16"00 - 0 to 34')(12½" 375' to 567'

Distance to water when not pumping 458 in 1956 Distance to water is

feet after pumping at G. P. M. for 400 @ PM 24 hours.

Reference point for above measurements Ground Level

Type of pump Berlen Deep Well Distance to ~~cylinder~~ bowls 535'

Length of ~~cylinder~~ bowls 15'-10" Length of suction pipe below ~~cylinder~~ bowls 10'

Length ~~stroke~~ airline 535' Speed #1160 - 1460

Hours used per day 24 Type of power DC - RPM 1130-1440

Rating of motor 100-HP 230-350 amps Rating of pump in G. P. M. 300 to 500-

Can following be measured: (1) Static water level yes

(2) Pumping level yes (3) Discharge

(4) Influence on other wells No.

Temperature of water 60° Was water sample collected yes

Date Effect of water on meters, hot water coils, etc.

Date of Analysis March 1st Analysis No. H-456 = P-O-M. 228-OH-O -

Recorder See Phillips 6-1-99 By W.B.S.

Date 3-11-58

P499103-01

BUNTE BROTHERS
CHASE CANDY CO.
3301 W. FRANKLIN BLVD.
CHICAGO 24, ILLINOIS

2807-22617 12

3/15/58

CORRECTED LOCATION

Bunte Brothers Candy Co.
#1 2500 ' S, 775' W, NE corner 11-39N-13E- Cook

P49103-02

(6)

MOORE'S MODERN METHODS

TOWN Chicago TOWNSHIP Chicago Map No. 15

COMPANY J.P.Miller Artesian Well Co. R. 13E

FARM Dunte Candy Co. No. 2 T. 39 N Sec. 11

AUTHORITY Summary Sample Study #2026

ELEVATION 603 T.M.

COLLECTOR DATE DRILLED 1936-7

CONFIDENTIAL

Examined by H. E. Vokes, May, 1937

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	3301 W. Franklin				
	No samples	33		33	
	SILURIAN SYSTEM				
	Niagaran series				
	Dolomite, light buff, very finely crystalline, compact	17		50	
	Dolomite, light buff, very finely crystalline, slightly vesicular	15		65	
	Dolomite, light gray to white, very fine to finely crystalline, vesicular, slightly pyritic	55		120	
	Dolomite, light grayish white and light yellowish gray, fine to medium crystalline, compact	15		135	
	Dolomite, light greenish to brownish white, very fine to fine, compact, slightly pyritic	5		140	
	Dolomite, light brownish gray, very fine to finely crystalline, vesicular	5		145	
	No sample	5		150	
	Dolomite, light brownish gray, very fine to finely crystalline, vesicular	10		160	
	Dolomite, light brownish gray to white, very fine, slightly vesicular	15		175	

County Cook Index No. 1511

T.--DRILL RECORD Summary Sample Set #2026

John C. Moore Corporation, Rochester, N.Y. Binder and holes in leaves, each Patented 1906. 396591

SHEET 2 T. 38N R. 13E S. 11

COMPANY J.P.Miller Art.Well Co. NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	Dolomite, light greenish gray, very fine to medium, crystalline, vesicular	10		185	
	Dolomite, light greenish to pinkish gray, very fine to finely crystalline, vesicular	10		195	
	Dolomite, light greenish white, very fine to finely crystalline, compact	5		200	
	Dolomite, light gray, finely crystalline, compact	25		225	
	Dolomite, white, very finely crystalline, slightly vesicular.	10		235	
	Dolomite, slightly glauconitic, white, very fine to finely crystalline, compact	5		240	
	Dolomite, light brownish white, very finely crystalline, compact	10		250	
	Dolomite, light greenish white, very finely crystalline, compact (No samples 260-5)	20		270	
	Dolomite, light green to light brownish gray, very finely crystalline, compact	10		280	
	Dolomite, light greenish to pinkish white, very fine to medium, crystalline, vesicular	10		290	
	Alexandrian series				
	Dolomite, light brownish gray, very finely crystalline, compact; shale, very dolo-				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #2086

SHEET 3 T. 39N R. 13E S. 11

COMPANY J.P. Miller Art. Well Co. NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	mitic, light green, brittle	10		300	
	Dolomite, light grayish white, very fine to medium crystalline, compact	10		310	
	Dolomite, slightly glauconitic, light brownish white, fine to medium crystalline, compact; shale, dolomitic, light green, soft (at base)	25		335	
	Dolomite, slightly glauconitic, slightly cherty, light brownish gray to white, very fine to medium crystalline, compact	10		345	
	Dolomite, light brownish white, very fine to medium crystalline, compact	10		355	
	Dolomite, light brownish to greenish white, very fine, compact; shale, very dolomitic, light greenish gray to white, soft, micaceous	20		375	
	Dolomite, light brownish gray, mottled gray, very fine to medium crystalline, compact, pyritic; shale, very dolomitic, green, soft to brittle	5		380	
	Dolomite, light brownish gray, very fine, compact	5		385	
	No sample	5		390	
	Dolomite, light brownish gray, very fine, compact, fossiliferous	5		395	
	ORDOVICIAN SYSTEM				
	Maquoketa formation				
	Shale, greenish gray to light				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #2026

John C. Moore Corporation, Rochester, N. Y. Binder and holes in leaves, each Patented 1905. 396591

SHEET 4 T. 38N R. 13E S. 11

COMPANY J.P.Miller Art.Well Co. HOLE NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	gray, weak, pyritic; little dolomite, argillaceous, brown, to gray, speckled black, very fine, compact, pyritic	45		440	
	Dolomite, argillaceous, brown, speckled black, fine to medium crystalline, compact, pyritic	10		450	
	Shale, gray, weak; little dolomite, argillaceous, brown, mottled dark gray, very fine, compact, pyritic	15		465	
	Shale, gray, brittle to weak, pyritic	20		485	
	Shale, gray, weak; little dolomite, argillaceous, light gray, very fine, compact	10		495	
	Shale, gray, brittle to soft	65		560	
	Mohawkian series				
	Galena formation				
	Dolomite, light brownish gray, finely crystalline, compact	50		610	
	Dolomite, very light buff to white, very fine to finely crystalline, compact; little shale, dolomitic, light bluish gray, soft, smooth	10		620	
	Dolomite, cherty, light brown, finely crystalline, compact	10		630	
	Dolomite, light buff, finely crystalline, compact	10		640	
	Dolomite, slightly cherty, slightly sandy, light grayish brown, speckled gray, fine to medium crystalline,				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #8026

John C. Moore Corporation, Rochester, N.Y. Binder and holes in leaves, each Patented 1906. 396591

SHEET 5 T. 39N R. 13E S 11

COMPANY J.F.Miller Art.Well Co. HOLE NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	compact	25		665	
	Dolomite, light brown to buff and white, speckled gray, very fine to medium crystalline, slightly vesicular	25		690	
	Dolomite, buff, very fine to finely crystalline, compact	20		710	
	Dolomite, grayish to brownish buff, very fine to finely crystalline, compact; shale, dolomitic, grayish brown, brittle	5		715	
	Dolomite, light gray, some tinged pinkish, very fine to finely crystalline, compact	10		725	
	Dolomite, light brownish white to white, finely crystalline, compact	10		735	
	Decorah formation				
	Dolomite, light brown, to light brownish gray and white, speckled, very fine to finely crystalline, compact; little shale, dolomitic, greenish gray, speckled dark, brittle	30		765	
	Platteville formation				
	Dolomite, slightly cherty, light grayish brown, very fine to finely crystalline, compact	30		795	
	No sample	5		800	
	Dolomite, brownish gray, extra fine to finely crystalline, compact	5		805	
	Dolomite, brownish gray mottled				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #2086

John C. Moore Corporation, Rochester, N.Y. Binder and holes in leaves, each Patented 1906. 396591

SHEET 6 T. 38N R. 13E S. 11

COMPANY J.P.Miller Art.Well Core NO.

FARM Sunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	gray, extra finely crystalline, compact	15		820	
	No sample	5		825	
	Dolomite, brownish gray mottled gray, extra finely crystalline, compact	5		830	
	Dolomite, light gray to white, extra fine to very finely crystalline, compact	35		865	
	Dolomite, light grayish white, extra finely crystalline to sub-lithographic, compact, pyritic	65		930	
	Glenwood formation				
	Sandstone, very dolomitic, white, very fine and medium, well rounded, partly coherent	10		940	
	Sandstone, slightly dolomitic, buff, fine and coarse, well rounded, partly coherent	10		950	
	Chazyan series				
	St. Peter sandstone				
	Sandstone, white, very fine to medium, rounded, incoherent	45		995	
	Sample out of place	5		1000	
	Sandstone, white, fine to medium, a few coarse, rounded, incoherent	40		1040	
	Shale, sandy, light gray, brittle; dolomite, slightly sandy, light pink, medium crystalline, compact; chert, white, dense, some slightly oolitic; shale, slightly dolomitic, sandy, light green,				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #2086

John C. Moore Corporation, Rochester, N.Y. Binder and holes in leaves, each Patented 1906. 396591

SHEET 7 T. 39N R. 13E S. 11

COMPANY J.P.Miller Art.Well Co. CORE NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	brittle, pyritic	10		1010	
	Sandstone, very argillaceous, white, fine to coarse, rounded, friable; dolomite, sandy, light brown to white, medium crystalline, compact	5		1015	
	Shale, dolomitic, grayish green, brittle, pyritic	5		1020	
	Sandstone, light gray, very fine to coarse, rounded, pyritic; shale, dolomitic, very sandy, light gray, soft, pyritic	10		1030	
	Chert, light gray to white, dense; chert, finely oolitic, light grayish white, dense	10		1040	
	No sample	10		1050	
	Prairie du Chien series				
	Oneota formation				
	Shale, dolomitic, slightly glauconitic, bright green, soft; dolomite, cherty, slightly glauconitic, light brown to light brownish gray, fine to medium crystalline, compact	10		1060	
	Dolomite, cherty, slightly glauconitic, light brown to light brownish gray, fine to medium crystalline, compact	15		1075	
	No sample	10		1085	
	CAMBRIAN SYSTEM				
	Jordan sandstone				
	Dolomite, cherty, sandy, light brown to white, finely crystalline, compact; shale, dolo-				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #2086

SHEET 8 T. 39N R. 13E S. 11

COMPANY J. P. Miller Art. Well HOLE NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	nitic, bright bluish green, soft	20		1105	
	Shale, dolomitic, slightly sandy, bright bluish green, soft, pyritic; dolomite, cherty, sandy, light grayish brown, fine, compact, some tinged pink	10		1115	
	Dolomite, cherty, slightly argillaceous, sandy, light gray to pinkish gray, fine to medium crystalline, compact	25		1140	
	Trempealeau formation				
	Dolomite, slightly cherty, light gray, finely crystalline, compact	40		1180	
	Dolomite, slightly cherty, light brownish gray, very finely crystalline, compact	10		1190	
	Dolomite, sandy, light gray, very fine to finely crystalline, compact; chert, white, dense	30		1220	
	Dolomite, cherty, light grayish buff, very finely crystalline, compact	5		1225	
	No sample	5		1230	
	Dolomite, slightly cherty, light grayish buff, very finely crystalline, compact	20		1250	
	Franconia formation				
	Dolomite, very sandy, slightly argillaceous, very glauconitic, light brownish to pinkish gray, fine, compact; sandstone,				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #2026

SHEET 9 T. 39N R. 13E S. 11

COMPANY J.P.Miller Art.Well Co. F NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	white, fine, sub-angular, incoherent	5		1255	
	Sandstone, very dolomitic, slightly argillaceous, very glauconitic, light brownish gray, fine, angular, compact; dolomite, sandy, glauconitic, pink, very finely crystalline, compact	25		1280	
	Sandstone, dolomitic, glauconitic, light gray, fine to coarse, sub-angular to rounded, partly coherent; shale, glauconitic, greyish green, soft	15		1295	
	No sample	5		1300	
	Sandstone, glauconitic, light gray, very fine to fine, sub-angular, compact; shale, glauconitic, greenish gray, soft	45		1345	
	Galesville formation (Dresbach)				
	Sandstone, slightly dolomitic, buff, medium to coarse, rounded, incoherent	45		1390	
	Sandstone, buff, fine, angular, incoherent	5		1395	
	Sandstone, dolomitic, buff, fine to coarse, rounded, partly coherent	25		1420	
	Sandstone, buff, fine to coarse, rounded, incoherent	40		1460	
	Sandstone, white, medium to coarse, rounded, incoherent	50		1510	
	Sandstone, light buff, fine to medium, rounded, incoherent	15		1525	
	Sandstone, white, fine to coarse,				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #2026

SHEET 10 T. 38N R. 15E S. 11

COMPANY J.P.Miller Art.Well Co. NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	rounded, incoherent	20		1545	
	Eau Claire formation				
	Dolomite, sandy, dark grayish brown, finely crystalline, compact; shale, dolomitic, brown, tough (little)	25		1570	
	Sandstone, dolomitic, glauconitic, grayish green, buff, fine, angular, compact; shale, sandy, dolomitic, grayish green, soft	25		1595	
	Sandstone, glauconitic, slightly dolomitic, buff, very fine to silty, compact, micaceous; shale, dolomitic, green, soft, micaceous	25		1620	
	No sample	55		1675	
	Shale, dolomitic, pinkish red, weak, slightly micaceous	5		1680	
	No sample	30		1710	
	Shale, slightly dolomitic, reddish gray, mottled green, weak	20		1730	
	Shale, grayish green, weak; little sandstone, dolomitic, glauconitic, very fine, angular, compact, slightly fossiliferous	40		1770	
	Shale, slightly dolomitic, greenish gray, mottled red, weak	5		1775	
	Sandstone, dolomitic, coarsely glauconitic, greenish gray, fine, angular, compact; dolomite, sandy, glauconitic, light gray to white, fine to				

County Cook Index No. 1311

DRILL RECORD Summary Sample Set #2026

SHEET 11 T. 39N R. 13E S. 11

COMPANY J.P.Miller Art.Well Co. F NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	medium crystalline, compact	5		1780	
	Dolomite, very sandy, coarsely glauconitic, light gray to white, fine to medium, compact; shale, dolomitic, slightly glauconitic, green, brittle, slightly micaceous	40		1820	
	Sandstone, dolomitic, very glauconitic, gray, fine to coarse, rounded, compact; shale, dolomitic, greenish gray to gray and red, tough, slightly micaceous	5		1825	
	Sandstone, slightly dolomitic, buff, very fine to medium, angular to sub-rounded, incoherent	5		1830	
	Sandstone, dolomitic, coarsely glauconitic, gray, fine to medium, angular, compact; shale, glauconitic, gray to greenish gray, brittle	5		1835	
	Sandstone, slightly dolomitic, glauconitic, white, very fine to medium, mostly very fine to fine, sub-rounded, partly coherent	25		1860	
	Sandstone, dolomitic, glauconitic, brownish gray to gray, very fine to silty, compact, pyritic, dolomite, sandy, gray, very fine to medium crystalline, compact	20		1880	
	Sandstone, slightly dolomitic, glauconitic, grayish white, very fine to medium, sub-				

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #1026

SHEET 12 T. 39N R. 13E S. 11

COMPANY J.P.Miller Art.Well Co. HOLE NO.

FARM Bunte Candy Co. HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	rounded, partly coherent Sandstone, light buff, very fine to fine, sub-angular to sub-rounded, incoherent	10 50		1890 1940	

15" hole to 567 ft.
10 1/2" hole to 1030 ft.
8" hole to 1951'7" (bottom)

54' of 16" O.D. Wrought Iron 3/8" wall drive pipe to rock.
192' of 12 1/2" - 50# Wrought Iron pipe top 375' bottom 567'
44' of 8" - 28# Wrought Iron pipe top 986' bottom 1030'

Static water level 255 ft. from surface.

County Cook Index No. 1511

DRILL RECORD Summary Sample Set #026

TOWN Chicago TOWNSHIP Map No. 15
S. B. Geiger, driller
COMPANY Sears Roebuck & Co. 13 E
FARM Harvard St. & Homan Ave.
AUTHORITY
ELEVATION 590
COLLECTOR DATE DRILLED
CONFIDENTIAL

T 39 N Sec. 14 Cen. SE 1/4

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	Quarternary System				
	Pleistocene Deposits				
	Surface sand and clay	18		18	
	Clay, blue	56		74	
	Hard pan	3		77	
	Silurian System				
	Niagara limestone				
	Limestone, white	126		203	
	Limestone, yellow	9		212	
	Limestone, white	39		251	
	Limestone, dark gray	116		367	
	Ordovician System				
	Maquoketa				
	Shale, blue	186		553	
	Galena-Trenton Limestone				
	Limestone, dark gray	112		665	
	Limestone, gray	13		678	
	Limestone	175		853	
	Limestone, sandy and shaly	5		858	
	Limestone, shaly	20		878	
	Limestone	120		998	
	St. Peter Sandstone				
	Sandstone	35		1033	
	Lower Magnesian Limestone				
	Limestone, gray	113		1146	
	Limestone, gray	107		1253	
	Shale, sandy	25		1278	
	Shale, green, sandy	15		1293	
	Shale, sandy	5		1298	
	Limestone, sandy	16		1314	

County COOK Index No. 1514

T.—DRILL RECORD

SHEET 2
COMPANY Sears Roebuck Co.
FARM

R. 39 N HOLE NO. 13 E S. 14
HOLE NO.

No.	STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	Sandstone and shale	14		1328	
	Shale, sandy and limestone	33		1361	
	Cambrian System				
	Potsdam Series				
	Sandstone	187		1548	
	Limestone, gray	10		1558	
	Shale and limestone	30		1588	
	Shale	80		1668	
	Red marl	30		1698	
	Shale and limestone	60		1758	
	Shale	30		1788	
	Shale, blue	34		1822	
	Sandstone	26		1848	
	Shale	20		1868	
	Sandstone	182		2050	

County COOK Index No. 1514

T.—DRILL RECORD
(27091—4M—11-29) 2

STATE WATER SURVEY

Department of Chemistry, University of Illinois.

Use this **Certificate** for water whose original source is **Well, Spring** or **Cistern.**

Sample of water from, Town Chicago County Cook

Report to be sent to A V H Mory
(Give Name and Address)

Collected and sealed by Harold Ekeberg

Date, day and hour of collection March 24 9 A.M. (Monday)

Shipped by Amer. Express Company. Date and hour of shipment 3/24/13 11 am

Collected from Deep Well
(State whether it is from a Well, Spring or Cistern, or from a Reservoir or Tap, original source being Well or Spring)

Location Roman ave near Harvard St
(Give Street and Number; or Section, Township, Range, etc.)

State proximity of privy ——— cesspool ——— stable ———

Feed lot ——— dumping grounds for slops, dish water, wash water, etc. ———

Is the drainage from all these places toward or from the Well, Spring or Cistern? ———

If there is any other possible source of pollution, state it ———

Has the water ever been considered unsafe? No Why? ———

If there have been any cases of Typhoid Fever among users of this water, state number of persons affected ——— date of illness ——— number of deaths ———

What other diseases have been attributed to use of this water? ———

State general condition of health of those using water ———

Well.—State depth 1868 Is it dug, bored, driven or drilled? Drilled

State character and thickness of strata through which it is sunk Lime Rock Shale Sandstone

State character of strata from which water is drawn Same as above Is it a flowing well? No

State approximate capacity and effect of dry or wet weather about 40 gal / min — no effect

With what is it walled or cased? Pipe How is the well covered? Sealed Is the cover water tight? Yes

If cemented or cased with iron pipe, state depth to which cement or casing extends Iron Pipe 853 ft

Spring.—What improvements has it? ———

Character of stratum from which water issues ———

Character of overlying strata ———

Approximate capacity and effect of dry or wet weather ———

Cistern.—What form of filter, if any, is used? ———

Does the Cistern leak? ——— How long since last cleaned? ———

Can small animals get into it at top? ——— What care is taken in collecting and storing water? ———

P 33794

Laboratory No. 24936 Received MAR 25 1913 10 A. M.

Arthington

Sears Roebuck & Company, ~~Harvard~~ St. & Homan Ave., Chicago, Ill.
Location: Section 14, T.39N., R.13E.
Elevation: 590

Strata	Thickness Feet	Thickness In.	Depth Feet	Depth In.
Quarternary System				
Pleistocene Deposits				
Surface sand and clay	18		18	
Clay, blue	56		74	
Hard pan	3		77	
Silurian System				
Niagara limestone				
Limestone, white	126		203	
Limestone, yellow	9		212	
Limestone, white	39		251	
Limestone, dark gray	116		367	
Ordovician System				
Maquoketa				
Shale, blue	186		553	
Galena-Trenton Limestone				
Limestone, dark gray	112		665	
Limestone, gray	13		678	
Limestone	175		853	
Limestone, sandy and shaly	5		858	
Limestone, shaly	20		878	
Limestone	120		998	
St. Peter Sandstone				
Sandstone	35		1033	
Lower Magnesian Limestone				
Limestone, gray	113		1146	
Limestone, gray	107		1253	
Shale, sandy	25		1278	
Shale, green, sandy	15		1293	
Shale, sandy	5		1298	
Limestone, sandy	16		1314	
Sandstone and shale	14		1328	
Shale, sandy and limestone	33		1361	
Cambrian System				
Potsdam Series				
Sandstone	187		1548	
Limestone, gray	10		1558	
Shale and limestone	30		1588	
Shale	80		1668	
Red marl	30		1698	
Shale and limestone	60		1758	
Shale	30		1788	
Shale, blue	34		1822	
Sandstone	26		1848	
Shale	20		1868	
Sandstone	182		3050	

(May be related to log
P# 33795
P 33794

Hole # 1.

City 900 S. Homan Ave. (over) ~~County~~ 250 ' S of Arthington & 700 ' E of Homan Ave.

Section 14 Twp. No. T 39 N Range R 13 E

Location (in feet from section corner)

Owner Sears - Roebuck Co. Authority E.H. Perry, Chf. Eng'r

Contractor S.B. Geiger Address

Date drilled 1912 Elev. above sea level top of well 590

Depth 1868 feet Dia at top - 10"

Log On file S.G.S.

Daily Av. Pumpage ..685,000 g.p.d. Used for all purposes except boiler water

Were drill cuttings saved Where filed

Size hole 8"?at bottom If reduced, where and how much see log.

Casing record to rock at a depth of 77 feet.

Distance to water when not pumping 240 ' (1932) Distance to water is 270 ?

feet after pumping at 500 g.p.m.? G. P. M. for 24 hours hours.

Reference point for above measurements top of well

Type of pump Air lift - 8" Eductor pipe Distance to ~~cylinder~~air line over 335 feet

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day 9 hours (8am -5pm) 15 hours (5pm -8am) Type of power

Rating of motor Rating of pump in G. P. M. 600 gpm - 9 hours 400 gpm - 15 hours

Can following be measured: (1) Static water level yes

(2) Pumping level difficult (3) Discharge yes

(4) Influence on other wells Yes - see well called hole No. 2.

Temperature of water 56 F. Was water sample collected

Date Effect of water on meters, hot water coils, etc.

Date of Analysis Analysis No.

Recorder A.A.Brensley

Ref: Bull 34, page 285

2807-19399 12

H.&W.report, page 25.

Date 3-21-34

P33794

City 900 S. Homan Ave. .. Hole No. 2 County 250 Ft. S. of Arthington & 25 ft east of Homan Ave.

Section 14 Twp. No. T 39 N Range R 13 E

Location (in feet from section corner)

Owner Sears-Roebuck & Co. Authority E.H. Perry

Contractor S.B.Geiger Address

Date drilled 1910 Elev. above sea level top of well 590

Depth 2050 FT (S.G.S. files) 1623 (Bull 34)

Log On file S.G.S. depth to rock 77 feet.

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water coils, etc.

Date of Analysis Analysis No.

Ref: - Bull 34, page 285
H & W report, page 25

Recorder A.A.B.

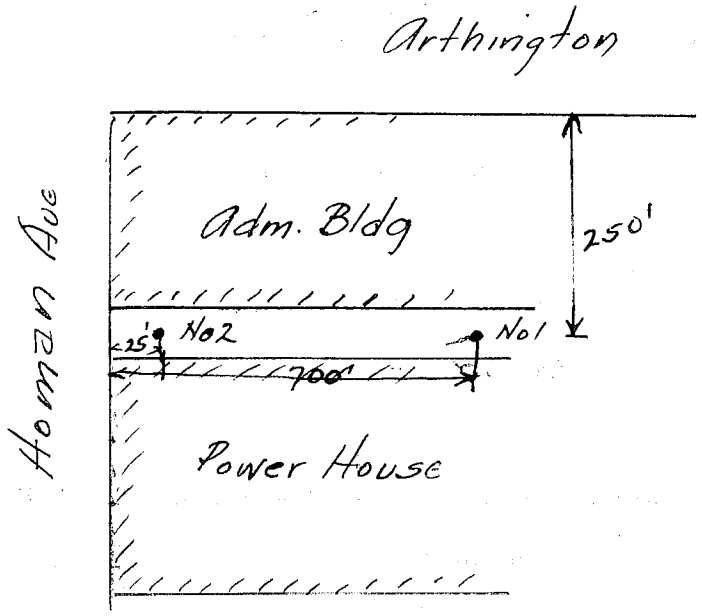
2807-19399 12

Date 3-21-34

Note: - All water is secured from one well (no 1) so that this remains idle.

P 3795

SEARS ROEBUCK CO.



No. 1: P33794
No. 2: P33795

Wells- Sec.14 - T39 N - R 13 E (Sears-Roebuck)

Well described as Hole No. 1, located as shown, 250 feet south of Arthington Street and 700 feet East of Homan Ave.

This well is described in Bulletin 34 page 285, column 3. The depth of casing of 853 feet could not be verified by Mr. Perry. Analysis of water is given. The discharge then was 530 g.p.m. (1914)

The 1927 report of the S.W.S. by Habermeyer and White -see page 25 This report states that the yield was measured in 1924? by weir measurement and was found to be 400 g.p.m.

Mr. Perry stated that in 1908 the water level was at a depth of 80 feet and has continued to recede since that date. Because of the long time service of Mr. Perry it would be advisable to interview him in more detail and to arrange for long time data and information on the well characteristics.

The Well described as Hole No 2. (see certificate) is not used inasmuch as all the water required can be secured from a single well. There is interference between the wells, so present operation is arranged to operate No,1 leaving No. 2 idle, but ready for service. It has not been used since 1927.

This well is described in Bulletin 34, page 285, col 2. The depth here is given as 1623 feet (1904) Files at the S.G.S. gives this well as 2050 feet. depth could not be verified with any degree of certainty.

3-21-34
AAB.

ILLINOIS STATE WATER SURVEY

b Type Chain Store Sheet No. 1 of 1 Sheets

Date 4/16/42

Owner Sears Roebuck Address Hornan & Power plant Interviewed Barbmeister

Total number of wells in area by owner 3

Pumping Station location Hornan & Power plant County Cook

Number of wells in supply 1

Individual well identification No. _____ Name Power house well

Total Depth 1868 Diameter Top 15" Diameter Bottom 8"

Drilling Contractor _____ Date Completed Prior to 1914

c Strata from which water is pumped Temp. 62°

Drift (Trenton Limestone) (St. Pete) _____ Mt. Simon

Static water level _____ Pumping level _____ G.P.M. 250 24 hrs Per day every day.

a Average G.P.D. 369000 Min. G.P.D. _____ Max. G.P.D. _____ Total G.P.D. _____

d Use of water: (1. Drinking,) Domestic, (Sanitation.) (2. Cooling all yr.)

(3. Condensing) 4. Air Conditioning 5. Process 6. Steam production

7. Amt. Recirculated 8. Increase or decrease in consumption no increase

8a. What for. 9. Capacity Elevated Storage. _____

Capacity Ground Storage 1-6500 gal & 1-8000 on ground level.

Detailed Location:

Sec. 2 Twp. 39 Range 14 E?

Detail Comments: Cased to 853'. Original total depth 2050' filled back to 1868' because of salt water. Pumped w/air lift.

Total G.P.D. Strata. Use.

Weekly Measurements Yes. (No.) Is cold water nec, (Yes.) No. Temp. 62°

Would shut down for one test only.

59 J B Mills
Field Engineer

P 33704

ILLINOIS STATE WATER SURVEY

Type _____ Sheet No. 1 of 1 Sheets

Date 2/12/43

Owner Sears Roebuck & Co Address 900 S. Homan, Chgo Interviewed F. Buhrmester C. Engr.

Total number of wells in area by owner 1

Pumping Station location 900 S. Homan St County Cook

Number of wells in supply 1

Individual well identification No. 1 Name _____

Total Depth 868 Diameter Top 8" Diameter Bottom 8"

Drilling Contractor Unknown Date Completed Unknown

Strata from which water is pumped Temp. 61.5°

Drift (Limestone) (St. Pete) _____ Mt. Simon

Static water level _____ Pumping level _____ G.P.M. 160

Average G.P.D. _____ Min. G.P.D. _____ Max. G.P.D. _____ Total G.P.D. ____

Use of water: (1. Drinking) Domestic, Sanitation. (2. Cooling all yr.)

(3. Condensing) 4. Air Conditioning 5. Process 6. Steam production

7. Amt. Recirculated 8. Increase or decrease in consumption

8a. What for. 9. Capacity Elevated Storage. _____

Capacity Ground Storage Small Pit

Detailed Location:

Sec. 14 Twp. 39 Range 13

Detail Comments: This well operates 24 hrs. Per day every day
This well is cased from 0' to 853' with 8" Pipe.

Total G.P.D. Strata. Use.

Weekly Measurements Yes. (No.) Is cold water nec. (Yes.) No. Temp. 61.5°

J. B. Mills
Field Engineer

P 33791

(over)

177

Cok 39N13E - 14.3b

July 7, 1943

MINERAL WATER ANALYSIS

Sample of water collected February 12, 1943 from well owned by Sears-Roebuck Co., Chicago, Illinois. Location of well: 1200'N. & 1900' W. of SE. Corner of Sec. 14, T. 39 N. 13 . Depth of well: 1868'.

LABORATORY NO. 95290

Determinations Made

		Parts per Million
Turbidity		Tr.
Color		0
Odor		0
Iron	Fe	
(filtered)		0.0
(unfiltered)		0.2
Manganese	Mn	0.01
Silica	SiO_2	9.0
Calcium	Ca	156.2
Magnesium	Mg	36.9
Ammonium	NH_4	0.2
Sodium	Na	256.6
Sulfate	SO_4	327.9
Nitrate	NO_3	4.3
Chloride	Cl	380.0
Alkalinity (as $CaCO_3$)		0
Phenolphthalein		0.0
Methyl Orange		218.0
Total Hardness (as $CaCO_3$)		542.6
Residue		1335
Temperature 61.5° F.		

Hypothetical Combinations

		Pts.per Million	Grs. per Million Gallon
Sodium Nitrate	$NaNO_3$	6.0	0.35
Sodium Chloride	NaCl	626.7	36.54
Sodium Sulfate	Na_2SO_4	22.7	1.32
Ammon'm Sulfate	$(NH_4)_2SO_4$	0.7	0.04
Magnes'm Sulfate	$MgSO_4$	183.0	10.67
Calcium Sulfate	$CaSO_4$	234.8	13.69
Calcium Carbonate	$CaCO_3$	218.2	12.72
Silica	SiO_2	9.0	0.52
Total		1301.1	75.85

monthly yield
Galesville
TEL

STATE WATER SURVEY DIVISION

T. E. Larson, Chemist

TEL:AB

P33794

COOK

C
O
P
Y

Weekly report 10-8-50 to 10-14-50

10-14-50

Sears-Roebuck and Company

Chicago Homan Street Works, Well No. 1. Section 14, T 39 N, R 13 E. Page 28, Bulletin 35.

A private engineering company making a power analysis, results will indicate continued use of this well or retirement of this unit. Such a decision will be made this fall.

Jack B. Millis
Field Engineer

P33794

C
O
P
Y

11-17-51

SEARS, ROEBUCK & CO., Homan St. Plant

2. Pumpage of water from deep well stopped on November 1, 1951. This well will be capped. A cooling tower will be installed for condensing water and Chicago city water will be used.

/s/ J. B. Millis

P33794

Copy

1-19-52

39N, 13E sec. 14

12. Sears Roebuck Co., Homan St. well, will be filled from top to bottom per instructions of SGS so as to remove it from tax records.

(s) Jack Millis

31c

City Chicago County Cook

Section 14.26 Twp. No. 39N Range 13E

Location (in feet from section corner) 1050'N, 1200'W, SE cor

Owner Sears, Roebuck and Co. #1 Authority 900 S. Homan

Contractor S. B. Geiger Address Mr. Wagner ? Bldg Supt

Date drilled 1912 Elev. above sea level top of well 590

Depth 1868 ft

Log Capped - not used since 1952

Were drill cuttings saved Where filed

Size hole If reduced, where and how much

Casing record

Distance to water when not pumping Distance to water is

feet after pumping at G. P. M. for hours.

Reference point for above measurements

Type of pump Distance to cylinder

Length of cylinder Length of suction pipe below cylinder

Length stroke Speed

Hours used per day Type of power

Rating of motor Rating of pump in G. P. M.

Can following be measured: (1) Static water level

(2) Pumping level (3) Discharge

(4) Influence on other wells

Temperature of water Was water sample collected

Date Effect of water on meters, hot water coils, etc.

Date of Analysis Analysis No.

Recorder Robert Bergman

Date Dec 3, 1958

P33794

2807-22617 12

State of Illinois
Department of Public Health

Freedom of Information Request

INSTRUCTIONS

Submit by Email

To request records, fill out this form and submit to the Illinois Department of Public Health's Freedom of Information Officer using one of the three methods described below. Send no money at this time.

If the request is for individually identifiable health information, an authorization or release permitting the disclosure of this information signed by the person or the person's representative or a court order permitting such release shall be submitted with the request. Failure to submit any documentation authorizing the disclosure will result in a denial of the records or the redaction of all information that may lead to the identity of a person or the person's medical condition.

The Freedom of Information Act [5 ILCS 140] requires a written response to non-commercial requests within 5 business days after the receipt of the request. Commercial requests require a response within 21 business days. The Department's response may include a request for an extension of another 5 business days or to a date agreed upon by the requestor and the Department.

Requestor Name: (Please Print or Type) Thomas A. Brecheisen

Organization or Business Name: Brecheisen Engineering, Inc.

Address: 5430 N. Sheridan Road, Suite 807

City: Chicago State: IL ZIP Code: 60640

Phone #: 773-334-3944 Fax #: E-mail: tom@beichicago.com

Check here if the records requested are to be used for commercial purposes ☐ Date of Request: 05/31/2019

DESCRIPTION OF RECORDS REQUESTED

◉ REQUESTING COPIES ○ TO INSPECT RECORDS

(Note that FOIA is not intended as the means to ask for responses to questions.)

Locations of all potable water supply wells other than community water supply wells within Sections 11, 12, 13, and 14 in Township 39 North, Range 13 East of the Third Principal Meridian in Cook County, Illinois.

Mail to: Illinois Department of Public Health
Freedom of Information Officer
535 W. Jefferson St.
Springfield, IL 62761

OR E-mail to: DPH.FOIA@illinois.gov
Please include "Freedom of Information Request" in the subject line of the e-mail.

OR Fax to: 217-782-3987

Rev. January 2010

From: **DPH.FOIA** DPH.FOIA@Illinois.gov
Subject: Regarding Freedom of Information Request DPH 0069 FOIA
Date: June 7, 2019 at 9:31 AM
To: tom@beichicago.com

Dear Mr. Brecheisen,

Please find below the Departments response to your FOIA request for water well records for the property located at 3001 W. Fifth Ave. in Chicago, Illinois (60612).

FOIA DPH-0069-FOIA

The Department's Division of Environmental Health can perform a record search on any well which is classified a non-community public water supply. A non-community public water supply is non-residential and serves at least 25 or more individuals. Staff searched the records and found the attached list of non-community supplies with an address of Chicago, IL.

Please go to the DPH Drinking Water Watch website for water sample data: http://163.191.83.31/dwwph/index.jsp.

The Division does not retain information on community water wells, semi-private or private water wells (those wells owned by individuals). Information regarding these wells may be obtained by contacting the Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL 61820, telephone 217-333-9043.

The Division does not retain information on monitoring wells.

The Department's Private Sewage Disposal Program does not have any information regarding this request. All records as they relate to wastewater treatment systems (construction reports, permits, variances, septic systems, etc.) are retained by the county health department or local municipality.

Sincerely,

Lisa Reynolds
Paralegal Assistant
Division of Legal Services/Illinois Department of Public Health
535 W. Jefferson, 5th Floor
Springfield, IL 62761
(217) 782-2043
Lisa.Reynolds@illinois.gov

ID #	NAME	ACTIVE OR INACTIVE	ADDRESS	CITY	ZIP
IL3069500	*LABAUGH WOODS WEST HP 2120*	I	ES CICERO NO FOSTER 30101	CHICAGO	60630
IL3070193	*EGGERS WOODS HP 5298*	I	SS 112TH WO INDIANA STL 74172	CHICAGO	60617
IL3070201	*EGGERS WOODS HP 5299*	I	SS 112TH W INDIANA STL 74172	CHICAGO	60617
IL3070383	*CALDWELL WOODS 2107*	I	NSO DEVON EO MILWAUKEE 13312	CHICAGO	60631
IL3070391	*CALDWELL WOODS GR 1 2108*	I	NSO DEVON EO MILWAUKEE 13313	CHICAGO	60631
IL3070409	*CALDWELL WOODS 2092*	I	NSO DEVON EO MILWAUKEE 13312	CHICAGO	60631
IL3073858	*CALDWELL GOLF COURSE HP 2116*	I	5900 N LEADER AVE 03042	CHICAGO	60646
IL3073890	*TED LECHOWICZ WOODS*	A	N CENTRAL AND INDIAN ROAD WOODS	CHICAGO	60646
IL3074161	*EDGEBROOK GOLF COURSE 2136*	I	6100 N CENTRAL AVE 03052	CHICAGO	60646
IL3074179	*EDGEBROOK GOLF COURSE 2135*	I	6100 N CENTRAL AVE 03052	CHICAGO	60646
IL3074195	*EDGEBROOK WOODS 2111*	A	ESO CENTRAL SO CALDWELL 03051	CHICAGO	60646
IL3074203	*EDGEBROOK WOODS 2110*	A	ESO CENTRAL SO CALDWELL 03051	CHICAGO	60646
IL3074211	*EDGEBROOK WOODS 2102*	I	ESO CENTRAL SO CALDWELL 03051	CHICAGO	60646
IL3074260	*INDIAN BOUNDARY GOLF 3127*	I	8600 W FOREST PRESERVE 02141	CHICAGO	60634
IL3074278	*INDIAN BOUNDARY GOLF 3128*	I	8600 W FOREST PRESERVE 02141	CHICAGO	60634
IL3074286	*INDIAN ROAD WOODS 2103*	I	ESO CENTRAL NEO INDIAN 03044	CHICAGO	60646
IL3074294	*INDIAN RD WDS HP 2101*	I	ESO CENTRAL NEO INDIAN 03043	CHICAGO	60646
IL3101790	*POWDERHORN LAKE HP 5293*	A	EO BRAINARD E BURNHAM 56051	CHICAGO	60616
IL3102442	*EDGEBROOK GOLF COURSE 2114*	I	NEAR 14TH TEE 03052	CHICAGO	60646
IL3147264	*NASH-FINCH COMPANY*	I	2551 W CERMAK RD	CHICAGO	60608

Legend

- Well Locations
- Cook County Parcels

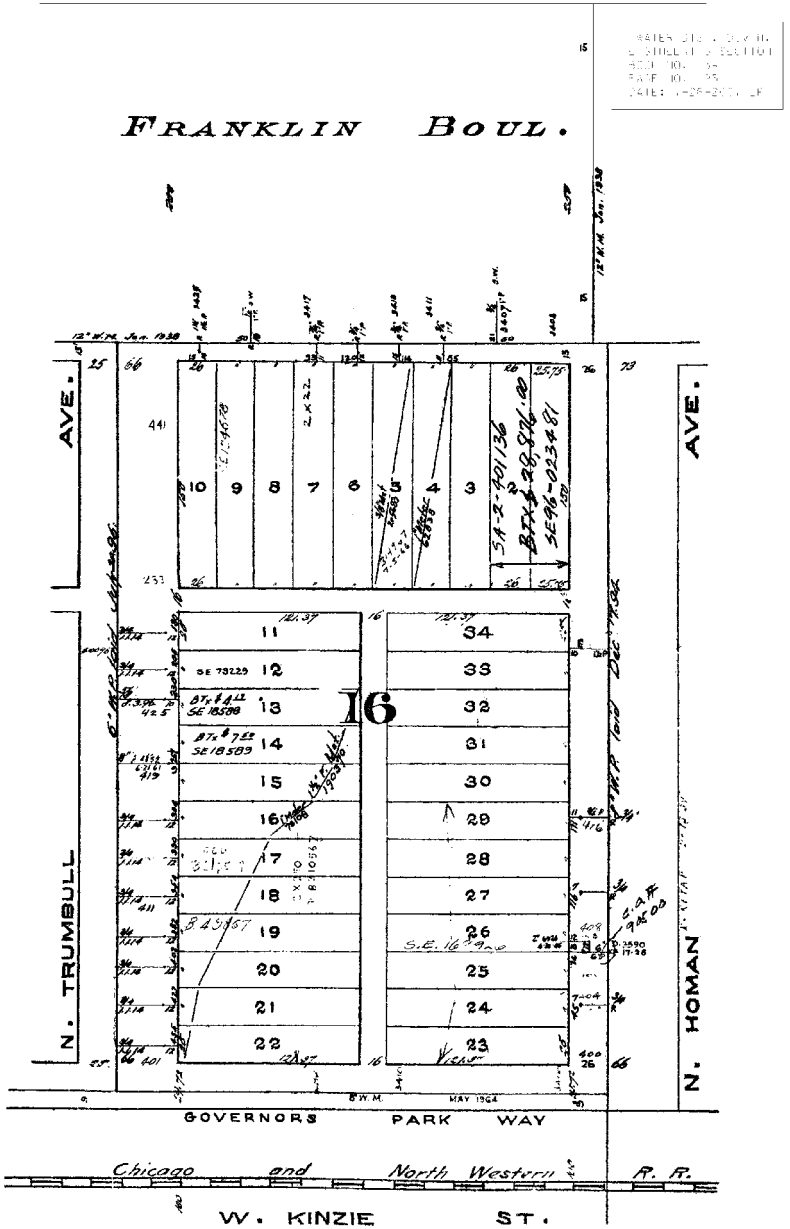
N

City of Chicago
Department of Environment
Figure: 18
Township 39 Range 13 Section 11

City of Chicago
Richard M. Daley, Mayor

0 120 240 480 720 960 Feet

95



APPENDIX D

Electromagnetic / Ground Penetrating Radar Survey Results

Subsurface Radar Solutions, LLC
17750 Beaverton Road Capron, IL 61012
IL Office: 815.405.5185
Website: www.4srs.com
Email: www.info@4srs.com

Earth Solutions
39W369 IL Rt 64
St Charles, Il 60175
630-443-0955/office

Scanning Report for 2 Parcels on W 5th Ave Chicago, IL

Description:

On 12-12-18 **Subsurface Radar Solutions, LLC** scanned using ground penetrating radar (GPR) portions of the properties on **W 5th Ave Chicago, IL**. The properties are currently undeveloped lots with some vegetation overgrowth, raised garden boxes, and some debris piles. We were hired to scan to look for any utilities, foundations, or any anomalies if found representative of an underground storage tank (UST). There were 2 properties that we scanned described as follows, **parcel #1** the southwest corner of W 5th Ave and S Sacramento Chicago, IL, and **parcel #2** the northwest corner of W 5th Ave and S Whipple St. We have included site photos and an aerial view showing the areas scanned with findings.

Methodology:

The GPR unit we used was a GSSI SIR-3000 GPR unit with a 400 mhz antenna. The website to the manufacturer of the equipment used is www.geophysical.com if you'd like additional information on the equipment used or GPR technology. The surfaces need to be relatively flat in order to scan using GPR. Some of the areas were acceptable to scan using GPR and some areas were not. We scanned around the garden beds, overgrowth and debris the best we could using GPR. We were able to see to an average depth of 4'-5' below the surface using GPR.

Additional methods we used to aid in locating were a CST/Berger MT102 metal detector and a Radio Detection wand, model RD 7000. The CST/Berger detects ferrous objects to a maximum depth of 10'-15' depending on site conditions. The RD 7000 was used to locate any buried power, communications, water, or gas we could find. We used the CST/Berger and RD 7000 over the majority of the areas since both pieces of equipment don't rely on a flat surface to be effective.

Subsurface Radar Solutions, LLC

Findings:

Parcel #1- was relatively flat and we were able to use GPR over most of this parcel. There were several raised garden beds that we scanned around the perimeter using GPR. It appears that there is fill material on site representative of possible building/construction debris over the majority of the area more on the eastern side of the area scanned than the western part of the parcel. The western portion of the parcel appears to be more evenly layered and not as disturbed as the eastern portions. We were unable to locate any consistent excavations representative of basements or foundation walls still intact. We did locate a possible sewer running north and south from W 5th Ave heading south as shown on the aerial map. We also found a metal anomaly using the CST/Berger in the northern half of the parcel where shown. We did not see the anomaly using GPR as being representative of a UST however it had definitive edges using and a rectangular shape using the CST/Berger and recommend further investigation as to what exactly it is. The dimensions of the anomaly are approx. 2'6" x 5'. We marked the anomaly directly on the ground where it sits using pink spray paint.

Parcel #2- had a lot of vegetation overgrowth, debris piles, and raised garden beds. We scanned in and around the obstacles the best we could using GPR. We were able to scan more of the western portion of the parcel than the eastern. There was an area found using GPR representative of a foundation and basement area in the northwestern portion of the parcel. It had defined edges and the fill material was representative of building/construction debris inside the excavation. The majority of the fill material on this parcel where we were able to scan was relatively even layers not indicative or representative of building/construction debris. There were no utilities or metal anomalies that we were able to locate on this parcel. Please feel free to contact me with any questions.

Respectfully submitted,

Anthony M. Savino
Subsurface Radar Solutions LLC
17750 Beaverton Rd
Capron, IL 61012
815-405-5185

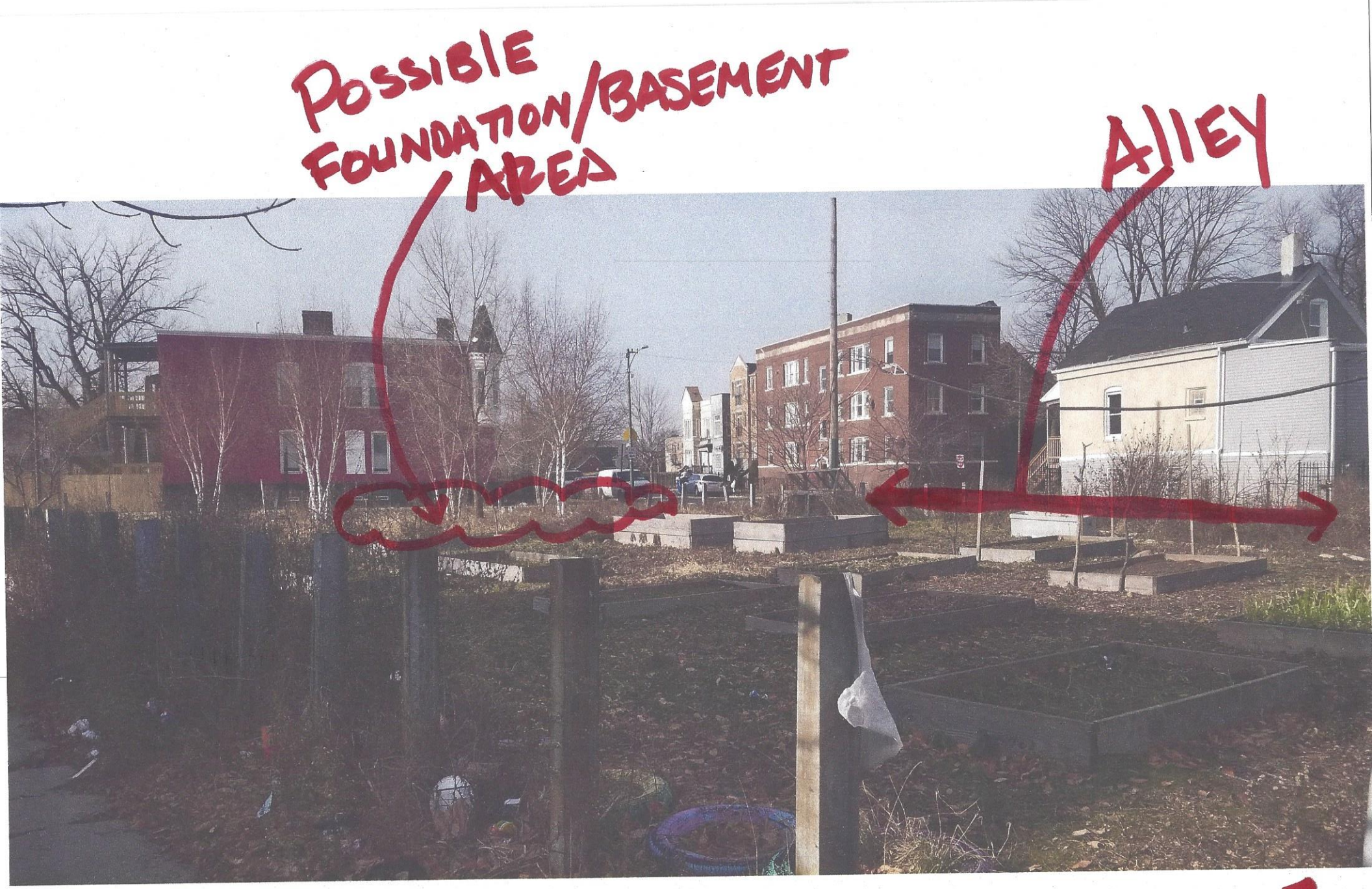
PARCEL #2

- POSSIBLE FOUNDATION AND BASEMENT APPROX 26x40

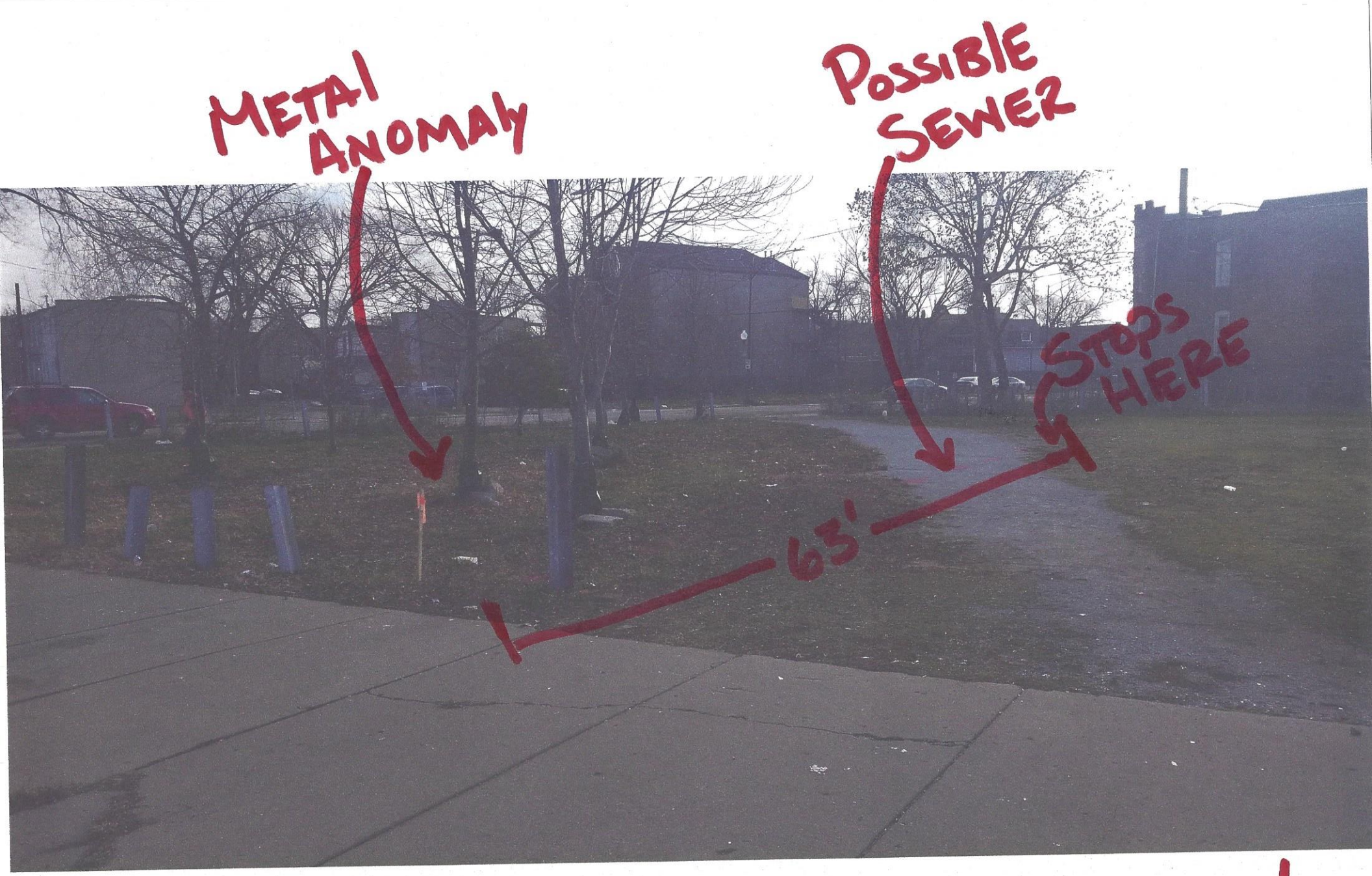
PARCEL #1

- METAL ANOMALY
- POSSIBLE SEWER

N



PARCEL #2



PARCEL #1

APPENDIX E

Site Investigation Photographs

Photo 1: Ground Penetrating Radar (GPR) survey activities (typical).

Photo 2: Electromagnetic (EM) survey activities (typical).

Photo 3: Advancement of soil boring SB-1.

Photo 4: Advancement of soil boring SB-2.

Photo 5: Advancement of soil boring SB-3.

Photo 6: Advancement of soil boring SB-4.

Photo 7: Advancement of soil boring SB-5.

Photo 8: Advancement of soil boring SB-6.

Photo 9: Advancement of soil boring SB-7.

Photo 10: Advancement of soil boring SB-8.

Photo 11: Advancement of soil boring SB-9.

Photo 12: Advancement of soil boring SB-10.

APPENDIX F

Soil Boring Logs and
Temporary Monitoring Well Construction Logs

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Boring No.
SB-1

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0	0.0	33	Topsoil underlain with some crushed concrete FILL material grading to brown silty clay with trace gravel at 3-feet; Loose, Moist. (GP/CL)	No visual or olfactory evidence of contamination
3	0.0	100	Light brown silty clay with trace gravel Firm to stiff, Moist. (CL)	
6	0.0	100	Light brown clay with trace gravel Firm, Moist (CH)	
9	0.0	33	Brown/gray clay with trace gravel; Soft, Moist. (CH)	
12	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15			End of boring 15-feet below grade.	
20				
25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 8:10 am	Finished: 8:40 am

Brecheisen Engineering, Inc.	Site Name and Location: Vacant Land 3001-11 W. Fifth Ave. Chicago, Illinois 60612	Boring No. **SB-2**

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0	0.0	33	Topsoil underlain by brown sand, gravel and FILL material; Loose, Moist. (GP/SP)	No visual or olfactory evidence of contamination
3	0.0	33	FILL sand and gravel underlain by brick FILL with some dark brown silty clay at 4-feet; Loose, Firm, Moist. (GP/SP/CL)	
6	0.0	50	FILL material underlain by brown/gray clay with trace gravel at 8-feet; Soft, Moist. (CH)	
9	0.0	33	Brown/gray clay with trace gravel; Soft, Moist. (CH)	
12	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15			End of boring 15-feet below grade.	
20				
25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 8:50 am	Finished: 9:15 am

Brecheisen Engineering, Inc.	Site Name and Location: Vacant Land, 3001-11 W. Fifth Ave., Chicago, Illinois 60612	Boring No. **SB-3**

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0	0.0	33	Topsoil underlain by FILL sand and gravel with some dark brown silty clay; Loose, Moist. (GP/SP/CL)	No visual or olfactory evidence of contamination
3	0.0	33	FILL sand, gravel, crushed concrete and brick with some dark brown silty clay at 4-feet; Loose, Moist. (GP/SP/CL)	
6	0.0	100	Brown/gray clay with trace gravel; Soft to firm, Moist. (CH)	
9	0.0	33	Brown/gray clay with trace gravel; Soft to firm, Moist. (CH)	
12	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15			End of boring 15-feet below grade.	
20				
25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 9:20 am	Finished: 9:45 am

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Boring No.
SB-4

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0 – 3	0.0	50	Topsoil underlain by FILL sand, brick and gravel with some dark brown silty clay; Loose, Firm, Moist. (GP/SP/CL)	No visual or olfactory evidence of contamination
3 – 6	0.0	67	Dark gray FILL sand and gravel with some brick and wood FILL grading to brown/gray silty clay with trace gravel at 4-feet; Loose, Moist. (GP/SP/CL)	
6 – 9	0.0	100	Brown/gray clay with trace gravel; Soft to firm, Moist. (CH)	
9 – 12	0.0	33	Brown/gray clay with trace gravel; Soft, Moist. (CH)	
12 – 15	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15 – 20			End of boring 15-feet below grade.	
20 – 25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 9:55 am	Finished: 10:20 am

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Boring No.
SB-5

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0	0.0	67	Topsoil underlain by FILL sand, brick, wood and gravel with some dark brown silty clay; Loose, Firm, Moist. (GP/SP/CL)	No visual or olfactory evidence of contamination
3	0.0	67	Dark brown FILL sand, gravel, brick, crushed concrete and wood with some dark brown silt clay; Loose, firm, Moist. (GP/SP/CL)	
6	0.0	33	FILL materials underlain by brown clay with trace gravel at 8-feet; Soft to firm, Moist. (CH)	
9	0.0	33	Brown clay with trace gravel; Soft, Moist. (CH)	
12	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15			End of boring 15-feet below grade.	
20				
25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 10:25 am	Finished: 10:50 am

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Boring No.
SB-6

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0 – 3	0.0	50	Topsoil underlain by FILL sand and gravel with some brick FILL Loose, Moist. (GP/SP)	No visual or olfactory evidence of contamination
3 – 6	0.0	50	Dark brown silty clay with some FILL sand, gravel, brick, wood, glass and textiles Loose, firm, Moist. (GP/SP/CL)	
6 – 9	0.0	33	FILL materials underlain by brown/gray clay with trace gravel at 8-feet; Large void space encountered from 7 to 8-feet; Soft to firm, Moist. (CH)	
9 – 12	0.0	33	Brown/gray clay with trace gravel; Soft to firm, Moist. (CH)	
12 – 15	0.0	100	Soft brown/gray clay grading to gray clay with trace gravel at 13-feet; Very soft, Moist. (CH)	
15 – 20			End of boring 15-feet below grade.	
20 – 25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 11:00 am	Finished: 11:25 am

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Boring No.
SB-7

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0	0.0	50	Topsoil underlain by dark brown FILL sand and gravel; Loose, Moist. (GP/SP)	No visual or olfactory evidence of contamination
3	0.0	33	Brick FILL with crushed stone; Not suitable for sampling (no soil); Loose, Moist. (GP)	
6	0.0	33	FILL materials underlain by brown/gray clay with trace gravel at 8-feet; Soft to firm, Moist. (CH)	
9	0.0	33	Brown clay with trace gravel; Soft, Moist. (CH)	
12	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15			End of boring 15-feet below grade.	
20				
25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 11:30 am	Finished: 12:00 pm

Brecheisen Engineering, Inc.	Site Name and Location: Vacant Land 3001-11 W. Fifth Ave. Chicago, Illinois 60612	Boring No. **SB-8**

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0 – 3	0.0	33	Topsoil underlain by dark brown FILL sand and gravel; Loose, Moist. (GP/SP)	No visual or olfactory evidence of contamination
3 – 6	0.0	67	Dark brown FILL sand, gravel, bricks and wood; Loose, Moist. (GP/SP)	
6 – 9	0.0	33	Dark brown FILL sand, gravel, bricks and wood; Loose, Moist. (GP/SP)	
9 – 12	0.0	<10	FILL material underlain by brown clay at 10-feet; Soft, Moist. (CH)	
12 – 15	0.0	<10	Gray clay with trace gravel; Very soft, Moist. (CH)	
15 – 20			End of boring 15-feet below grade.	
20 – 25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 12:05 pm	Finished: 12:30 pm

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Boring No.
SB-9

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0	0.0	33	Topsoil underlain with some FILL sand and gravel grading to brown silty clay with some gravel at 2-feet; Loose, Stiff, Moist. (GP/SP/CL)	No visual or olfactory evidence of contamination
3	0.0	100	Brown silty clay with trace gravel; Firm to stiff, Moist. (CH)	
6	0.0	100	Brown/gray clay with trace gravel; Firm, Moist (CH)	
9	0.0	33	Brown/gray clay with trace gravel; Soft, Moist. (CH)	
12	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15			End of boring 15-feet below grade.	
20				
25				

NOTES:

Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 12:35 pm	Finished: 1:00 pm

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

Boring No.
SB-10

DEPTH (ft)	PID (ppm)	RECOVERY (%)	SOIL DESCRIPTION	OBSERVATIONS
			SURFACE GRADE = Topsoil	
0	0.0	33	Topsoil underlain by FILL sand, gravel and bricks with some dark brown silty clay; Loose, Stiff, Moist. (GP/SP/CL)	No visual or olfactory evidence of contamination
3	0.0	33	FILL sand, gravel, bricks and wood; Loose, Moist. (GP/SP)	
6	0.0	100	Brown clay with trace gravel; Soft to firm, Moist. (CH)	
9	0.0	33	Brown clay with trace gravel; Soft to firm, Moist. (CH)	
12	0.0	100	Gray clay with trace gravel; Very soft, Moist. (CH)	
15			End of boring 15-feet below grade.	
20				
25				

NOTES:

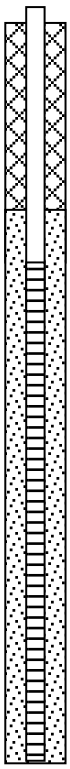
Shaded interval submitted for laboratory analysis.

Logging Method: ASTM D-2488	Logged By: Tom Brecheisen
Depth to Groundwater: Not encountered	Method: Geoprobe Macrocore
BEI Project No: 16-2FMEHS-00013	Date: December 13, 2018
Started: 1:05 pm	Finished: 1:30 pm

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

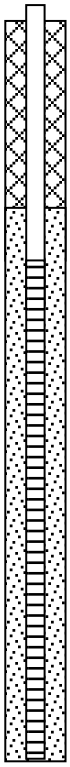
Well No.
SB-2/TMW-1

DEPTH	SCHEMATIC	ELEVATIONS	DETAILS	PID (ppm)	OBSERVATIONS
0		100.26' Top of Casing 100.01' Top of Seal 3.75' Total Seal Interval 96.26' Top of Sand 95.26' Top of Screen 10.0' Total Screen Interval 85.26' Bottom of Screen	Well Vault: None Surface Seal: Bentonite Annular Sealant: Bentonite Bentonite Type: 1/4" Pellets Type of Sand Pack: No. 5 quartz		
				0.0	Topsoil underlain by brown sand, gravel and FILL material; Loose, Moist. (GP/SP)
3				0.0	FILL sand and gravel underlain by brick FILL with some dark brown silty clay at 4-feet; Loose, Firm, Moist. (GP/SP/CL)
6				0.0	FILL material underlain by brown/gray clay with trace gravel at 8-feet; Soft, Moist. (CH)
9				0.0	Brown/gray clay with trace gravel; Soft, Moist. (CH)
12				0.0	Gray clay with trace gravel; Very soft, Moist. (CH)
16	End of boring 15-feet below grade.				

Well Construction Materials		Measurements	
Riser Pipe	Sch. 40 PVC	Riser pipe length	5-feet
Riser Coupling Joint	Sch. 40 PVC	Screen length	10-feet
Screen	Sch. 40 PVC	Screen Slot Size	0.010-inch
Screen-Riser Coupling	Sch. 40 PVC	Depth to Water while Drilling	NA
Protective Casing	None	Depth to Water after Drilling	7.57'

Driller:	D. Stefansson	Engineer:	T. Brecheisen
Drilling Method:	Geoprobe	Date Started:	13-Dec-18
Drilling Fluids	None	Date Completed:	13-Dec-18

Brecheisen Engineering, Inc.	Site Name and Location: Vacant Land 3001-11 W. Fifth Ave. Chicago, Illinois 60612	Well No. **SB-5/TMW-2**

DEPTH	SCHEMATIC	ELEVATIONS	DETAILS	PID (ppm)	OBSERVATIONS
0		100.18' Top of Casing 99.93' Top of Seal 3.75' Total Seal Interval 96.18' Top of Sand 95.18' Top of Screen 10.0' Total Screen Interval 85.18' Bottom of Screen	Well Vault: None Surface Seal: Bentonite Annular Sealant: Bentonite Bentonite Type: 1/4" Pellets Type of Sand Pack: No. 5 quartz		
3				0.0	Topsoil underlain by FILL sand, brick, wood and gravel with some dark brown silty clay; Loose, Firm, Moist. (GP/SP/CL)
6				0.0	Dark brown FILL sand, gravel, brick, crushed concrete and wood with some dark brown silt clay; Loose, firm, Moist. (GP/SP/CL)
9				0.0	FILL materials underlain by brown clay with trace gravel at 8-feet; Soft to firm, Moist. (CH)
12				0.0	Brown clay with trace gravel; Soft, Moist. (CH)
16				0.0	Gray clay with trace gravel; Very soft, Moist. (CH)
	End of boring 15-feet below grade.				

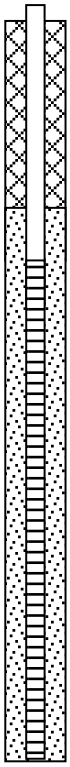
Well Construction Materials		Measurements	
Riser Pipe	Sch. 40 PVC	Riser pipe length	5-feet
Riser Coupling Joint	Sch. 40 PVC	Screen length	10-feet
Screen	Sch. 40 PVC	Screen Slot Size	0.010-inch
Screen-Riser Coupling	Sch. 40 PVC	Depth to Water while Drilling	NA
Protective Casing	None	Depth to Water after Drilling	6.73'

Driller:	D. Stefansson	Engineer:	T. Brecheisen
Drilling Method:	Geoprobe	Date Started:	13-Dec-18
Drilling Fluids	None	Date Completed:	13-Dec-18

Brecheisen Engineering, Inc.

Site Name and Location:
Vacant Land
3001-11 W. Fifth Ave.
Chicago, Illinois 60612

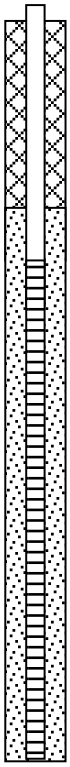
Well No.
SB-6/TMW-3

DEPTH	SCHEMATIC	ELEVATIONS	DETAILS	PID (ppm)	OBSERVATIONS
0		100.88' Top of Casing 100.63' Top of Seal 3.75' Total Seal Interval 96.88' Top of Sand 95.88' Top of Screen 10.0' Total Screen Interval 85.88' Bottom of Screen	Well Vault: None Surface Seal: Bentonite Annular Sealant: Bentonite Bentonite Type: 1/4" Pellets Type of Sand Pack: No. 5 quartz		
3				0.0	Topsoil underlain by FILL sand and gravel with some brick FILL. Loose, Moist. (GP/SP)
6				0.0	Dark brown silty clay with some FILL sand, gravel, brick, wood, glass and textiles; Loose, firm, Moist. (GP/SP/CL)
9				0.0	FILL materials underlain by brown/gray clay with trace gravel at 8-feet; Soft to firm, Moist. (CH)
12				0.0	Brown/gray clay with trace gravel; Soft to firm, Moist. (CH)
16				0.0	Soft brown/gray clay grading to gray clay with trace gravel at 13-feet; Very soft, Moist. (CH)
	End of boring 15-feet below grade.				

Well Construction Materials		Measurements	
Riser Pipe	Sch. 40 PVC	Riser pipe length	5-feet
Riser Coupling Joint	Sch. 40 PVC	Screen length	10-feet
Screen	Sch. 40 PVC	Screen Slot Size	0.010-inch
Screen-Riser Coupling	Sch. 40 PVC	Depth to Water while Drilling	NA
Protective Casing	None	Depth to Water after Drilling	10.99'

Driller:	D. Stefansson	Engineer:	T. Brecheisen
Drilling Method:	Geoprobe	Date Started:	13-Dec-18
Drilling Fluids	None	Date Completed:	13-Dec-18

Brecheisen Engineering, Inc.	Site Name and Location: Vacant Land 3001-11 W. Fifth Ave. Chicago, Illinois 60612	Well No. **SB-8/TMW-4**

DEPTH	SCHEMATIC	ELEVATIONS	DETAILS	PID (ppm)	OBSERVATIONS
0		100.55' Top of Casing 100.30' Top of Seal 3.75' Total Seal Interval 96.55' Top of Sand 95.55' Top of Screen 10.0' Total Screen Interval 85.55' Bottom of Screen	Well Vault: None Surface Seal: Bentonite Annular Sealant: Bentonite Bentonite Type: 1/4" Pellets Type of Sand Pack: No. 5 quartz		
3				0.0	Topsoil underlain by dark brown FILL sand and gravel; Loose, Moist. (GP/SP)
6				0.0	Dark brown FILL sand, gravel, bricks and wood; Loose, Moist. (GP/SP)
9				0.0	Dark brown FILL sand, gravel, bricks and wood; Loose, Moist. (GP/SP)
12				0.0	FILL material underlain by brown clay at 10-feet; Soft, Moist. (CH)
16				0.0	Gray clay with trace gravel; Very soft, Moist. (CH)
	End of boring 15-feet below grade.				

Well Construction Materials		**Measurements**	
Riser Pipe	Sch. 40 PVC	Riser pipe length	5-feet
Riser Coupling Joint	Sch. 40 PVC	Screen length	10-feet
Screen	Sch. 40 PVC	Screen Slot Size	0.010-inch
Screen-Riser Coupling	Sch. 40 PVC	Depth to Water while Drilling	NA
Protective Casing	None	Depth to Water after Drilling	7.52'

Driller:	D. Stefansson	Engineer:	T. Brecheisen
Drilling Method:	Geoprobe	Date Started:	13-Dec-18
Drilling Fluids	None	Date Completed:	13-Dec-18

APPENDIX G

Soil Analytical Results

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

January 11, 2019

Brecheisen Engineering, Inc.
516 W. Briar, Suite 12A
Chicago, IL 60614-
Telephone: (312) 659-0052
Fax: (312) 640-0115

Analytical Report for STAT Work Order: 18120406 Revision 2

RE: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11 W. Fifth Ave.

Dear Tom Brecheisen:

STAT Analysis received 49 samples for the referenced project on 12/13/2018 4:08:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAP standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Brandon Young
Project Manager

Client: Brecheisen Engineering, Inc.
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11
Work Order: 18120406 Revision 2

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18120406-001A	SB-1 (0-3)		12/13/2018 8:15:00 AM	12/13/2018
18120406-001B	SB-1 (0-3)		12/13/2018 8:15:00 AM	12/13/2018
18120406-002A	SB-1 (3-6)		12/13/2018 8:20:00 AM	12/13/2018
18120406-002B	SB-1 (3-6)		12/13/2018 8:20:00 AM	12/13/2018
18120406-003A	SB-1 (6-9)		12/13/2018 8:30:00 AM	12/13/2018
18120406-003B	SB-1 (6-9)		12/13/2018 8:30:00 AM	12/13/2018
18120406-004A	SB-1 (9-12)		12/13/2018 8:35:00 AM	12/13/2018
18120406-004B	SB-1 (9-12)		12/13/2018 8:35:00 AM	12/13/2018
18120406-005A	SB-1 (12-15)		12/13/2018 8:40:00 AM	12/13/2018
18120406-005B	SB-1 (12-15)		12/13/2018 8:40:00 AM	12/13/2018
18120406-006A	SB-2 (0-3)		12/13/2018 8:55:00 AM	12/13/2018
18120406-006B	SB-2 (0-3)		12/13/2018 8:55:00 AM	12/13/2018
18120406-007A	SB-2 (3-6)		12/13/2018 9:00:00 AM	12/13/2018
18120406-007B	SB-2 (3-6)		12/13/2018 9:00:00 AM	12/13/2018
18120406-008A	SB-2 (6-9)		12/13/2018 9:05:00 AM	12/13/2018
18120406-008B	SB-2 (6-9)		12/13/2018 9:05:00 AM	12/13/2018
18120406-009A	SB-2 (9-12)		12/13/2018 9:10:00 AM	12/13/2018
18120406-009B	SB-2 (9-12)		12/13/2018 9:10:00 AM	12/13/2018
18120406-010A	SB-2 (12-15)		12/13/2018 9:15:00 AM	12/13/2018
18120406-010B	SB-2 (12-15)		12/13/2018 9:15:00 AM	12/13/2018
18120406-011A	SB-3 (0-3)		12/13/2018 9:25:00 AM	12/13/2018
18120406-011B	SB-3 (0-3)		12/13/2018 9:25:00 AM	12/13/2018
18120406-012A	SB-3 (3-6)		12/13/2018 9:30:00 AM	12/13/2018
18120406-012B	SB-3 (3-6)		12/13/2018 9:30:00 AM	12/13/2018
18120406-013A	SB-3 (6-9)		12/13/2018 9:35:00 AM	12/13/2018
18120406-013B	SB-3 (6-9)		12/13/2018 9:35:00 AM	12/13/2018
18120406-014A	SB-3 (9-12)		12/13/2018 9:40:00 AM	12/13/2018
18120406-014B	SB-3 (9-12)		12/13/2018 9:40:00 AM	12/13/2018
18120406-015A	SB-3 (12-15)		12/13/2018 9:45:00 AM	12/13/2018
18120406-015B	SB-3 (12-15)		12/13/2018 9:45:00 AM	12/13/2018
18120406-016A	SB-4 (0-3)		12/13/2018 10:00:00 AM	12/13/2018
18120406-016B	SB-4 (0-3)		12/13/2018 10:00:00 AM	12/13/2018
18120406-017A	SB-4 (3-6)		12/13/2018 10:05:00 AM	12/13/2018
18120406-017B	SB-4 (3-6)		12/13/2018 10:05:00 AM	12/13/2018
18120406-018A	SB-4 (6-9)		12/13/2018 10:10:00 AM	12/13/2018
18120406-018B	SB-4 (6-9)		12/13/2018 10:10:00 AM	12/13/2018
18120406-019A	SB-4 (9-12)		12/13/2018 10:15:00 AM	12/13/2018
18120406-019B	SB-4 (9-12)		12/13/2018 10:15:00 AM	12/13/2018

Client:	Brecheisen Engineering, Inc.
Project:	16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11
Work Order:	18120406 Revision 2

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18120406-020A	SB-4 (12-15)		12/13/2018 10:20:00 AM	12/13/2018
18120406-020B	SB-4 (12-15)		12/13/2018 10:20:00 AM	12/13/2018
18120406-021A	SB-5 (0-3)		12/13/2018 10:30:00 AM	12/13/2018
18120406-021B	SB-5 (0-3)		12/13/2018 10:30:00 AM	12/13/2018
18120406-022A	SB-5 (3-6)		12/13/2018 10:35:00 AM	12/13/2018
18120406-022B	SB-5 (3-6)		12/13/2018 10:35:00 AM	12/13/2018
18120406-023A	SB-5 (6-9)		12/13/2018 10:40:00 AM	12/13/2018
18120406-023B	SB-5 (6-9)		12/13/2018 10:40:00 AM	12/13/2018
18120406-024A	SB-5 (9-12)		12/13/2018 10:45:00 AM	12/13/2018
18120406-024B	SB-5 (9-12)		12/13/2018 10:45:00 AM	12/13/2018
18120406-025A	SB-5 (12-15)		12/13/2018 10:50:00 AM	12/13/2018
18120406-025B	SB-5 (12-15)		12/13/2018 10:50:00 AM	12/13/2018
18120406-026A	SB-6 (0-3)		12/13/2018 11:05:00 AM	12/13/2018
18120406-026B	SB-6 (0-3)		12/13/2018 11:05:00 AM	12/13/2018
18120406-027A	SB-6 (3-6)		12/13/2018 11:10:00 AM	12/13/2018
18120406-027B	SB-6 (3-6)		12/13/2018 11:10:00 AM	12/13/2018
18120406-028A	SB-6 (6-9)		12/13/2018 11:15:00 AM	12/13/2018
18120406-028B	SB-6 (6-9)		12/13/2018 11:15:00 AM	12/13/2018
18120406-029A	SB-6 (9-12)		12/13/2018 11:20:00 AM	12/13/2018
18120406-029B	SB-6 (9-12)		12/13/2018 11:20:00 AM	12/13/2018
18120406-030A	SB-6 (12-15)		12/13/2018 11:25:00 AM	12/13/2018
18120406-030B	SB-6 (12-15)		12/13/2018 11:25:00 AM	12/13/2018
18120406-031A	SB-7 (0-3)		12/13/2018 11:35:00 AM	12/13/2018
18120406-031B	SB-7 (0-3)		12/13/2018 11:35:00 AM	12/13/2018
18120406-032A	SB-7 (6-9)		12/13/2018 11:45:00 AM	12/13/2018
18120406-032B	SB-7 (6-9)		12/13/2018 11:45:00 AM	12/13/2018
18120406-033A	SB-7 (9-12)		12/13/2018 11:50:00 AM	12/13/2018
18120406-033B	SB-7 (9-12)		12/13/2018 11:50:00 AM	12/13/2018
18120406-034A	SB-7 (12-15)		12/13/2018 12:00:00 PM	12/13/2018
18120406-034B	SB-7 (12-15)		12/13/2018 12:00:00 PM	12/13/2018
18120406-035A	SB-8 (0-3)		12/13/2018 12:10:00 PM	12/13/2018
18120406-035B	SB-8 (0-3)		12/13/2018 12:10:00 PM	12/13/2018
18120406-036A	SB-8 (3-6)		12/13/2018 12:15:00 PM	12/13/2018
18120406-036B	SB-8 (3-6)		12/13/2018 12:15:00 PM	12/13/2018
18120406-037A	SB-8 (6-9)		12/13/2018 12:20:00 PM	12/13/2018
18120406-037B	SB-8 (6-9)		12/13/2018 12:20:00 PM	12/13/2018
18120406-038A	SB-8 (9-12)		12/13/2018 12:25:00 PM	12/13/2018
18120406-038B	SB-8 (9-12)		12/13/2018 12:25:00 PM	12/13/2018
18120406-039A	SB-8 (12-15)		12/13/2018 12:30:00 PM	12/13/2018
18120406-039B	SB-8 (12-15)		12/13/2018 12:30:00 PM	12/13/2018

Client: Brecheisen Engineering, Inc.
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11
Work Order: 18120406 Revision 2

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18120406-040A	SB-9 (0-3)		12/13/2018 12:40:00 PM	12/13/2018
18120406-040B	SB-9 (0-3)		12/13/2018 12:40:00 PM	12/13/2018
18120406-041A	SB-9 (3-6)		12/13/2018 12:45:00 PM	12/13/2018
18120406-041B	SB-9 (3-6)		12/13/2018 12:45:00 PM	12/13/2018
18120406-042A	SB-9 (6-9)		12/13/2018 12:50:00 PM	12/13/2018
18120406-042B	SB-9 (6-9)		12/13/2018 12:50:00 PM	12/13/2018
18120406-043A	SB-9 (9-12)		12/13/2018 12:55:00 PM	12/13/2018
18120406-043B	SB-9 (9-12)		12/13/2018 12:55:00 PM	12/13/2018
18120406-044A	SB-9 (12-15)		12/13/2018 1:00:00 PM	12/13/2018
18120406-044B	SB-9 (12-15)		12/13/2018 1:00:00 PM	12/13/2018
18120406-045A	SB-10 (0-3)		12/13/2018 1:10:00 PM	12/13/2018
18120406-045B	SB-10 (0-3)		12/13/2018 1:10:00 PM	12/13/2018
18120406-046A	SB-10 (3-6)		12/13/2018 1:15:00 PM	12/13/2018
18120406-046B	SB-10 (3-6)		12/13/2018 1:15:00 PM	12/13/2018
18120406-047A	SB-10 (6-9)		12/13/2018 1:20:00 PM	12/13/2018
18120406-047B	SB-10 (6-9)		12/13/2018 1:20:00 PM	12/13/2018
18120406-048A	SB-10 (9-12)		12/13/2018 1:25:00 PM	12/13/2018
18120406-048B	SB-10 (9-12)		12/13/2018 1:25:00 PM	12/13/2018
18120406-049A	SB-10 (12-15)		12/13/2018 1:30:00 PM	12/13/2018
18120406-049B	SB-10 (12-15)		12/13/2018 1:30:00 PM	12/13/2018

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations:IEPA ELAP 100445;ORELAP IL300001;AIHA-LAP, LLC 101160;NVLAP LabCode 101202-0

Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-001

Client Sample ID: SB-1 (0-3)
Collection Date: 12/13/2018 8:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0070		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0070		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0070		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.022		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	0.10	0.042		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.042		mg/Kg-dry	1	12/19/2018
Anthracene	0.38	0.042		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	0.59	0.042		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	0.44	0.042		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	0.49	0.042		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	0.29	0.042		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	0.36	0.042		mg/Kg-dry	1	12/19/2018
Chrysene	0.62	0.042		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	0.17	0.042		mg/Kg-dry	1	12/19/2018
Fluoranthene	1.4	0.042		mg/Kg-dry	1	12/19/2018
Fluorene	0.15	0.042		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	0.25	0.042		mg/Kg-dry	1	12/19/2018
Naphthalene	0.082	0.042		mg/Kg-dry	1	12/19/2018
Phenanthrene	1.7	0.042		mg/Kg-dry	1	12/19/2018
Pyrene	1.1	0.042		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	7.4	1.1		mg/Kg-dry	10	12/18/2018
Barium	310	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	1.2	0.57		mg/Kg-dry	10	12/18/2018
Chromium	25	1.1		mg/Kg-dry	10	12/18/2018
Lead	1100	0.57		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **12/27/2018**		Analyst: **JG**
Lead	0.41	0.0050		mg/L	5	12/27/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	2.2	0.44		mg/Kg-dry	20	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.48			pH Units	1	12/17/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-001

Client Sample ID: SB-1 (0-3)
Collection Date: 12/13/2018 8:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Organic Matter / Carbon	**D2974**			Prep Date: **1/2/2019**		Analyst: **RW**
Organic Carbon Content	6.87	0.01	*	wt%	1	1/3/2019
Organic Matter	11.8	0.01	*	wt%	1	1/3/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	21.7	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-002

Client Sample ID: SB-1 (3-6)
Collection Date: 12/13/2018 8:20:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0044		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0044		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0044		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.013		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	ND	0.039		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.039		mg/Kg-dry	1	12/19/2018
Anthracene	ND	0.039		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	ND	0.039		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	ND	0.039		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	ND	0.039		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	ND	0.039		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	ND	0.039		mg/Kg-dry	1	12/19/2018
Chrysene	ND	0.039		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.039		mg/Kg-dry	1	12/19/2018
Fluoranthene	ND	0.039		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.039		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	ND	0.039		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.039		mg/Kg-dry	1	12/19/2018
Phenanthrene	ND	0.039		mg/Kg-dry	1	12/19/2018
Pyrene	ND	0.039		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	10	1.0		mg/Kg-dry	10	12/18/2018
Barium	100	1.0		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.51		mg/Kg-dry	10	12/18/2018
Chromium	30	1.0		mg/Kg-dry	10	12/18/2018
Lead	23	0.51		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.0		mg/Kg-dry	10	12/18/2018
Silver	ND	1.0		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.034	0.019		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.37			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	15.7	0.2	*	wt%	1	12/18/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-003

Client Sample ID: SB-1 (6-9)
Collection Date: 12/13/2018 8:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A**	**(SW3050B)**		Prep Date: **1/3/2019**		Analyst: **JG**
Chromium	23	1.1		mg/Kg-dry	10	1/4/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	19.2	0.2	*	wt%	1	12/18/2018

Qualifiers:
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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-006

Client Sample ID: SB-2 (0-3)
Collection Date: 12/13/2018 8:55:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0055		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0055		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0055		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.017		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	ND	0.035		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.035		mg/Kg-dry	1	12/19/2018
Anthracene	ND	0.035		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	0.076	0.035		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	0.082	0.035		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	0.070	0.035		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	0.12	0.035		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	0.071	0.035		mg/Kg-dry	1	12/19/2018
Chrysene	0.086	0.035		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.035		mg/Kg-dry	1	12/19/2018
Fluoranthene	0.14	0.035		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.035		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	0.057	0.035		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.035		mg/Kg-dry	1	12/19/2018
Phenanthrene	0.091	0.035		mg/Kg-dry	1	12/19/2018
Pyrene	0.14	0.035		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	3.0	0.89		mg/Kg-dry	10	12/18/2018
Barium	11	0.89		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.44		mg/Kg-dry	10	12/18/2018
Chromium	4.1	0.89		mg/Kg-dry	10	12/18/2018
Lead	15	0.44		mg/Kg-dry	10	12/18/2018
Selenium	ND	0.89		mg/Kg-dry	10	12/18/2018
Silver	ND	0.89		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	ND	0.020		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.36			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	6.2	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-007

Client Sample ID: SB-2 (3-6)
Collection Date: 12/13/2018 9:00:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.014		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	0.41	0.039		mg/Kg-dry	1	12/19/2018
Acenaphthylene	0.40	0.039		mg/Kg-dry	1	12/19/2018
Anthracene	1.6	0.039		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	4.1	0.039		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	4.0	0.039		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	3.8	0.039		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	2.3	0.039		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	2.9	0.039		mg/Kg-dry	1	12/19/2018
Chrysene	4.1	0.039		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	1.1	0.039		mg/Kg-dry	1	12/19/2018
Fluoranthene	8.1	0.19		mg/Kg-dry	5	12/20/2018
Fluorene	0.57	0.039		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	2.0	0.039		mg/Kg-dry	1	12/19/2018
Naphthalene	0.11	0.039		mg/Kg-dry	1	12/19/2018
Phenanthrene	5.7	0.19		mg/Kg-dry	5	12/20/2018
Pyrene	7.6	0.19		mg/Kg-dry	5	12/20/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	6.0	1.0		mg/Kg-dry	10	12/18/2018
Barium	150	1.0		mg/Kg-dry	10	12/18/2018
Cadmium	0.61	0.51		mg/Kg-dry	10	12/18/2018
Chromium	22	1.0		mg/Kg-dry	10	12/18/2018
Lead	530	0.51		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.0		mg/Kg-dry	10	12/18/2018
Silver	ND	1.0		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.35	0.021		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.40			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	15.1	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-008

Client Sample ID: SB-2 (6-9)
Collection Date: 12/13/2018 9:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/26/2018**		Analyst: **FP**
Acenaphthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Acenaphthylene	ND	0.041		mg/Kg-dry	1	12/26/2018
Anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benz(a)anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Chrysene	ND	0.041		mg/Kg-dry	1	12/26/2018
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Fluorene	ND	0.041		mg/Kg-dry	1	12/26/2018
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/26/2018
Phenanthrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/2/2019**		Analyst: **JG**
Lead	17	1.2		mg/Kg-dry	10	1/3/2019
Mercury	**SW7471B**			Prep Date: **1/2/2019**		Analyst: **LB**
Mercury	0.026	0.023		mg/Kg-dry	1	1/2/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	20.2	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-011

Client Sample ID: SB-3 (0-3)
Collection Date: 12/13/2018 9:25:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0037		mg/Kg	1	12/15/2018
Ethylbenzene	ND	0.0037		mg/Kg	1	12/15/2018
Toluene	ND	0.0037		mg/Kg	1	12/15/2018
Xylenes, Total	ND	0.011		mg/Kg	1	12/15/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-012

Client Sample ID: SB-3 (3-6)
Collection Date: 12/13/2018 9:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/9/2019**		Analyst: **JG**
Arsenic	13	1.1		mg/Kg-dry	10	1/10/2019
Barium	190	1.1		mg/Kg-dry	10	1/10/2019
Cadmium	1.1	0.55		mg/Kg-dry	10	1/10/2019
Chromium	34	1.1		mg/Kg-dry	10	1/10/2019
Lead	330	0.55		mg/Kg-dry	10	1/10/2019
Selenium	1.4	1.1		mg/Kg-dry	10	1/10/2019
Silver	ND	1.1		mg/Kg-dry	10	1/10/2019
Mercury	**SW7471B**			Prep Date: **1/9/2019**		Analyst: **LB**
Mercury	0.17	0.024		mg/Kg-dry	1	1/9/2019
pH (25 °C)	**SW9045C**			Prep Date: **1/9/2019**		Analyst: **RW**
pH	8.46		H	pH Units	1	1/9/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	17.0	0.2	*	wt%	1	12/18/2018

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-013

Client Sample ID: SB-3 (6-9)
Collection Date: 12/13/2018 9:35:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.014		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.041		mg/Kg-dry	1	12/19/2018
Anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Chrysene	ND	0.041		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.041		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/19/2018
Phenanthrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	11	1.1		mg/Kg-dry	10	12/18/2018
Barium	77	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.57		mg/Kg-dry	10	12/18/2018
Chromium	27	1.1		mg/Kg-dry	10	12/18/2018
Lead	20	0.57		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.025	0.020		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.41			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	19.9	0.2	*	wt%	1	12/18/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-014

Client Sample ID: SB-3 (9-12)
Collection Date: 12/13/2018 9:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/3/2019**		Analyst: **JG**
Chromium	22	1.0		mg/Kg-dry	10	1/4/2019
pH (25 °C)	**SW9045C**			Prep Date: **12/31/2018**		Analyst: **JT**
pH	8.69			pH Units	1	12/31/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	20.4	0.2	*	wt%	1	12/18/2018

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-016

Client Sample ID: SB-4 (0-3)
Collection Date: 12/13/2018 10:00:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0055		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0055		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0055		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.017		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	2.2	0.42		mg/Kg-dry	1	12/19/2018
Acenaphthylene	1.7	0.42		mg/Kg-dry	1	12/19/2018
Anthracene	9.2	0.42		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	34	0.42		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	32	0.42		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	36	0.42		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	22	0.42		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	27	0.42		mg/Kg-dry	1	12/19/2018
Chrysene	36	0.42		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	11	0.42		mg/Kg-dry	1	12/19/2018
Fluoranthene	73	2.1		mg/Kg-dry	5	12/20/2018
Fluorene	3.0	0.42		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	21	0.42		mg/Kg-dry	1	12/19/2018
Naphthalene	0.48	0.42		mg/Kg-dry	1	12/19/2018
Phenanthrene	35	0.42		mg/Kg-dry	1	12/19/2018
Pyrene	63	2.1		mg/Kg-dry	5	12/20/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	25	1.2		mg/Kg-dry	10	12/18/2018
Barium	920	1.2		mg/Kg-dry	10	12/18/2018
Cadmium	3.0	0.58		mg/Kg-dry	10	12/18/2018
Chromium	37	1.2		mg/Kg-dry	10	12/18/2018
Lead	2000	0.58		mg/Kg-dry	10	12/18/2018
Selenium	1.8	1.2		mg/Kg-dry	10	12/18/2018
Silver	ND	1.2		mg/Kg-dry	10	12/18/2018
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **12/27/2018**		Analyst: **JG**
Lead	0.39	0.0050		mg/L	5	12/27/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.38	0.025		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.04			pH Units	1	12/17/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-016

Client Sample ID: SB-4 (0-3)
Collection Date: 12/13/2018 10:00:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	22.2	0.2	*	wt%	1	12/18/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-017

Client Sample ID: SB-4 (3-6)
Collection Date: 12/13/2018 10:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.014		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	0.95	0.039		mg/Kg-dry	1	12/19/2018
Acenaphthylene	0.42	0.039		mg/Kg-dry	1	12/19/2018
Anthracene	2.5	0.039		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	4.2	0.039		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	3.6	0.039		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	3.2	0.039		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	2.0	0.039		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	3.1	0.039		mg/Kg-dry	1	12/19/2018
Chrysene	4.2	0.039		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	1.1	0.039		mg/Kg-dry	1	12/19/2018
Fluoranthene	9.1	0.19		mg/Kg-dry	5	12/20/2018
Fluorene	1.4	0.039		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	1.8	0.039		mg/Kg-dry	1	12/19/2018
Naphthalene	1.4	0.039		mg/Kg-dry	1	12/19/2018
Phenanthrene	9.6	0.19		mg/Kg-dry	5	12/20/2018
Pyrene	7.6	0.19		mg/Kg-dry	5	12/20/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	13	1.0		mg/Kg-dry	10	12/18/2018
Barium	75	1.0		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.50		mg/Kg-dry	10	12/18/2018
Chromium	23	1.0		mg/Kg-dry	10	12/18/2018
Lead	120	0.50		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.0		mg/Kg-dry	10	12/18/2018
Silver	ND	1.0		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.045	0.021		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.51			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	15.7	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-018

Client Sample ID: SB-4 (6-9)
Collection Date: 12/13/2018 10:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Polynuclear Aromatic Hydrocarbons by GC/MS SW8270C (SW3550B)				Prep Date: **12/26/2018**		Analyst: **FP**
Acenaphthene	0.22	0.041		mg/Kg-dry	1	12/26/2018
Acenaphthylene	0.065	0.041		mg/Kg-dry	1	12/26/2018
Anthracene	0.59	0.041		mg/Kg-dry	1	12/26/2018
Benz(a)anthracene	0.83	0.041		mg/Kg-dry	1	12/26/2018
Benzo(a)pyrene	0.68	0.041		mg/Kg-dry	1	12/26/2018
Benzo(b)fluoranthene	0.60	0.041		mg/Kg-dry	1	12/26/2018
Benzo(g,h,i)perylene	0.39	0.041		mg/Kg-dry	1	12/26/2018
Benzo(k)fluoranthene	0.58	0.041		mg/Kg-dry	1	12/26/2018
Chrysene	0.82	0.041		mg/Kg-dry	1	12/26/2018
Dibenz(a,h)anthracene	0.21	0.041		mg/Kg-dry	1	12/26/2018
Fluoranthene	2.0	0.041		mg/Kg-dry	1	12/26/2018
Fluorene	0.36	0.041		mg/Kg-dry	1	12/26/2018
Indeno(1,2,3-cd)pyrene	0.34	0.041		mg/Kg-dry	1	12/26/2018
Naphthalene	0.45	0.041		mg/Kg-dry	1	12/26/2018
Phenanthrene	2.3	0.041		mg/Kg-dry	1	12/26/2018
Pyrene	1.6	0.041		mg/Kg-dry	1	12/26/2018
Metals by ICP/MS SW6020A (SW3050B)				Prep Date: **1/3/2019**		Analyst: **JG**
Lead	18	0.61		mg/Kg-dry	10	1/4/2019
Percent Moisture D2974				Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	19.4	0.2	*	wt%	1	12/18/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-021

Client Sample ID: SB-5 (0-3)
Collection Date: 12/13/2018 10:30:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0054		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0054		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0054		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.016		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	0.76	0.040		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.040		mg/Kg-dry	1	12/19/2018
Anthracene	4.0	0.040		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	7.7	0.20		mg/Kg-dry	5	12/20/2018
Benzo(a)pyrene	6.2	0.20		mg/Kg-dry	5	12/20/2018
Benzo(b)fluoranthene	5.8	0.20		mg/Kg-dry	5	12/20/2018
Benzo(g,h,i)perylene	4.0	0.040		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	5.2	0.20		mg/Kg-dry	5	12/20/2018
Chrysene	7.9	0.20		mg/Kg-dry	5	12/20/2018
Dibenz(a,h)anthracene	2.1	0.040		mg/Kg-dry	1	12/19/2018
Fluoranthene	17	0.20		mg/Kg-dry	5	12/20/2018
Fluorene	1.1	0.040		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	3.8	0.040		mg/Kg-dry	1	12/19/2018
Naphthalene	0.067	0.040		mg/Kg-dry	1	12/19/2018
Phenanthrene	16	0.20		mg/Kg-dry	5	12/20/2018
Pyrene	16	0.20		mg/Kg-dry	5	12/20/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	6.9	1.0		mg/Kg-dry	10	12/18/2018
Barium	92	1.0		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.51		mg/Kg-dry	10	12/18/2018
Chromium	9.2	1.0		mg/Kg-dry	10	12/18/2018
Lead	170	0.51		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.0		mg/Kg-dry	10	12/18/2018
Silver	ND	1.0		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.15	0.023		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.75			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	17.8	0.2	*	wt%	1	12/18/2018

Qualifiers:
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HT - Sample received past holding time
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-023

Client Sample ID: SB-5 (6-9)
Collection Date: 12/13/2018 10:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0047		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.015		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.041		mg/Kg-dry	1	12/19/2018
Anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Chrysene	ND	0.041		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.041		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/19/2018
Phenanthrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	11	1.1		mg/Kg-dry	10	12/18/2018
Barium	54	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.55		mg/Kg-dry	10	12/18/2018
Chromium	22	1.1		mg/Kg-dry	10	12/18/2018
Lead	19	0.55		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.031	0.021		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.07			pH Units	1	12/17/2018
Organic Matter / Carbon	**D2974**			Prep Date: **1/2/2019**		Analyst: **RW**
Organic Carbon Content	1.13	0.01	*	wt%	1	1/3/2019
Organic Matter	1.95	0.01	*	wt%	1	1/3/2019

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-023

Client Sample ID: SB-5 (6-9)
Collection Date: 12/13/2018 10:40:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	19.8	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-026

Client Sample ID: SB-6 (0-3)
Collection Date: 12/13/2018 11:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **CBG**
Acetone	ND	0.073		mg/Kg-dry	1	12/17/2018
Benzene	ND	0.0049		mg/Kg-dry	1	12/17/2018
Bromodichloromethane	ND	0.0049		mg/Kg-dry	1	12/17/2018
Bromoform	ND	0.0049		mg/Kg-dry	1	12/17/2018
Bromomethane	ND	0.0098		mg/Kg-dry	1	12/17/2018
2-Butanone	ND	0.073		mg/Kg-dry	1	12/17/2018
Carbon disulfide	ND	0.049		mg/Kg-dry	1	12/17/2018
Carbon tetrachloride	ND	0.0049		mg/Kg-dry	1	12/17/2018
Chlorobenzene	ND	0.0049		mg/Kg-dry	1	12/17/2018
Chloroethane	ND	0.0098		mg/Kg-dry	1	12/17/2018
Chloroform	ND	0.0049		mg/Kg-dry	1	12/17/2018
Chloromethane	ND	0.0098		mg/Kg-dry	1	12/17/2018
Dibromochloromethane	ND	0.0049		mg/Kg-dry	1	12/17/2018
1,1-Dichloroethane	ND	0.0049		mg/Kg-dry	1	12/17/2018
1,2-Dichloroethane	ND	0.0049		mg/Kg-dry	1	12/17/2018
1,1-Dichloroethene	ND	0.0049		mg/Kg-dry	1	12/17/2018
cis-1,2-Dichloroethene	ND	0.0049		mg/Kg-dry	1	12/17/2018
trans-1,2-Dichloroethene	ND	0.0049		mg/Kg-dry	1	12/17/2018
1,2-Dichloropropane	ND	0.0049		mg/Kg-dry	1	12/17/2018
cis-1,3-Dichloropropene	ND	0.0019		mg/Kg-dry	1	12/17/2018
trans-1,3-Dichloropropene	ND	0.0019		mg/Kg-dry	1	12/17/2018
Ethylbenzene	ND	0.0049		mg/Kg-dry	1	12/17/2018
2-Hexanone	ND	0.019		mg/Kg-dry	1	12/17/2018
4-Methyl-2-pentanone	ND	0.019		mg/Kg-dry	1	12/17/2018
Methylene chloride	ND	0.0098		mg/Kg-dry	1	12/17/2018
Methyl tert-butyl ether	ND	0.0049		mg/Kg-dry	1	12/17/2018
Styrene	ND	0.0049		mg/Kg-dry	1	12/17/2018
1,1,2,2-Tetrachloroethane	ND	0.0049		mg/Kg-dry	1	12/17/2018
Tetrachloroethene	ND	0.0049		mg/Kg-dry	1	12/17/2018
Toluene	ND	0.0049		mg/Kg-dry	1	12/17/2018
1,1,1-Trichloroethane	ND	0.0049		mg/Kg-dry	1	12/17/2018
1,1,2-Trichloroethane	ND	0.0049		mg/Kg-dry	1	12/17/2018
Trichloroethene	ND	0.0049		mg/Kg-dry	1	12/17/2018
Vinyl chloride	ND	0.0049		mg/Kg-dry	1	12/17/2018
Xylenes, Total	ND	0.015		mg/Kg-dry	1	12/17/2018
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	ND	0.35		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.35		mg/Kg-dry	1	12/19/2018

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Date Reported: January 11, 2019
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ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-026

Client Sample ID: SB-6 (0-3)
Collection Date: 12/13/2018 11:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Aniline	ND	3.6		mg/Kg-dry	1	12/19/2018
Anthracene	ND	0.35		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	ND	0.35		mg/Kg-dry	1	12/19/2018
Benzidine	ND	3.5		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	ND	0.35		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	ND	0.35		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	ND	0.35		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	ND	0.35		mg/Kg-dry	1	12/19/2018
Benzoic acid	ND	8.9		mg/Kg-dry	1	12/19/2018
Benzyl alcohol	ND	1.8		mg/Kg-dry	1	12/19/2018
Bis(2-chloroethoxy)methane	ND	1.8		mg/Kg-dry	1	12/19/2018
Bis(2-chloroethyl)ether	ND	1.8		mg/Kg-dry	1	12/19/2018
Bis(2-ethylhexyl)phthalate	ND	8.9		mg/Kg-dry	1	12/19/2018
4-Bromophenyl phenyl ether	ND	1.8		mg/Kg-dry	1	12/19/2018
Butyl benzyl phthalate	ND	1.8		mg/Kg-dry	1	12/19/2018
Carbazole	ND	1.8		mg/Kg-dry	1	12/19/2018
4-Chloroaniline	ND	1.8		mg/Kg-dry	1	12/19/2018
4-Chloro-3-methylphenol	ND	3.5		mg/Kg-dry	1	12/19/2018
2-Chloronaphthalene	ND	1.8		mg/Kg-dry	1	12/19/2018
2-Chlorophenol	ND	1.8		mg/Kg-dry	1	12/19/2018
4-Chlorophenyl phenyl ether	ND	1.8		mg/Kg-dry	1	12/19/2018
Chrysene	ND	0.35		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.35		mg/Kg-dry	1	12/19/2018
Dibenzofuran	ND	1.8		mg/Kg-dry	1	12/19/2018
1,2-Dichlorobenzene	ND	1.8		mg/Kg-dry	1	12/19/2018
1,3-Dichlorobenzene	ND	1.8		mg/Kg-dry	1	12/19/2018
1,4-Dichlorobenzene	ND	1.8		mg/Kg-dry	1	12/19/2018
3,3´-Dichlorobenzidine	ND	1.8		mg/Kg-dry	1	12/19/2018
2,4-Dichlorophenol	ND	1.8		mg/Kg-dry	1	12/19/2018
Diethyl phthalate	ND	1.8		mg/Kg-dry	1	12/19/2018
2,4-Dimethylphenol	ND	1.8		mg/Kg-dry	1	12/19/2018
Dimethyl phthalate	ND	1.8		mg/Kg-dry	1	12/19/2018
4,6-Dinitro-2-methylphenol	ND	3.5		mg/Kg-dry	1	12/19/2018
2,4-Dinitrophenol	ND	8.9		mg/Kg-dry	1	12/19/2018
2,4-Dinitrotoluene	ND	0.35		mg/Kg-dry	1	12/19/2018
2,6-Dinitrotoluene	ND	0.35		mg/Kg-dry	1	12/19/2018
Di-n-butyl phthalate	ND	1.8		mg/Kg-dry	1	12/19/2018
Di-n-octyl phthalate	ND	1.8		mg/Kg-dry	1	12/19/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-026

Client Sample ID: SB-6 (0-3)
Collection Date: 12/13/2018 11:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Fluoranthene	ND	0.35		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.35		mg/Kg-dry	1	12/19/2018
Hexachlorobenzene	ND	1.8		mg/Kg-dry	1	12/19/2018
Hexachlorobutadiene	ND	1.8		mg/Kg-dry	1	12/19/2018
Hexachlorocyclopentadiene	ND	1.8		mg/Kg-dry	1	12/19/2018
Hexachloroethane	ND	1.8		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	ND	0.35		mg/Kg-dry	1	12/19/2018
Isophorone	ND	1.8		mg/Kg-dry	1	12/19/2018
2-Methylnaphthalene	ND	1.8		mg/Kg-dry	1	12/19/2018
2-Methylphenol	ND	1.8		mg/Kg-dry	1	12/19/2018
4-Methylphenol	ND	1.8		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.35		mg/Kg-dry	1	12/19/2018
2-Nitroaniline	ND	1.8		mg/Kg-dry	1	12/19/2018
3-Nitroaniline	ND	1.8		mg/Kg-dry	1	12/19/2018
4-Nitroaniline	ND	1.8		mg/Kg-dry	1	12/19/2018
2-Nitrophenol	ND	1.8		mg/Kg-dry	1	12/19/2018
4-Nitrophenol	ND	3.5		mg/Kg-dry	1	12/19/2018
Nitrobenzene	ND	0.35		mg/Kg-dry	1	12/19/2018
N-Nitrosodi-n-propylamine	ND	0.35		mg/Kg-dry	1	12/19/2018
N-Nitrosodimethylamine	ND	1.8		mg/Kg-dry	1	12/19/2018
N-Nitrosodiphenylamine	ND	0.35		mg/Kg-dry	1	12/19/2018
2, 2'-oxybis(1-Chloropropane)	ND	1.8		mg/Kg-dry	1	12/19/2018
Pentachlorophenol	ND	0.35		mg/Kg-dry	1	12/19/2018
Phenanthrene	ND	0.35		mg/Kg-dry	1	12/19/2018
Phenol	ND	1.8		mg/Kg-dry	1	12/19/2018
Pyrene	ND	0.35		mg/Kg-dry	1	12/19/2018
Pyridine	ND	7.2		mg/Kg-dry	1	12/19/2018
1,2,4-Trichlorobenzene	ND	1.8		mg/Kg-dry	1	12/19/2018
2,4,5-Trichlorophenol	ND	1.8		mg/Kg-dry	1	12/19/2018
2,4,6-Trichlorophenol	ND	1.8		mg/Kg-dry	1	12/19/2018
PCBs	**SW8082A (SW3550B)**			Prep Date: **12/18/2018**		Analyst: **GVC**
Aroclor 1016	ND	0.085		mg/Kg-dry	1	12/18/2018
Aroclor 1221	ND	0.085		mg/Kg-dry	1	12/18/2018
Aroclor 1232	ND	0.085		mg/Kg-dry	1	12/18/2018
Aroclor 1242	ND	0.085		mg/Kg-dry	1	12/18/2018
Aroclor 1248	ND	0.085		mg/Kg-dry	1	12/18/2018
Aroclor 1254	ND	0.085		mg/Kg-dry	1	12/18/2018
Aroclor 1260	ND	0.085		mg/Kg-dry	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-026

Client Sample ID: SB-6 (0-3)
Collection Date: 12/13/2018 11:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides		**SW8081B (SW3550B)**		Prep Date: **12/18/2018**		Analyst: **GVC**
4,4´-DDD	ND	0.0017		mg/Kg-dry	1	12/18/2018
4,4´-DDE	ND	0.0017		mg/Kg-dry	1	12/18/2018
4,4´-DDT	ND	0.0017		mg/Kg-dry	1	12/18/2018
Aldrin	ND	0.0017		mg/Kg-dry	1	12/18/2018
alpha-BHC	ND	0.0017		mg/Kg-dry	1	12/18/2018
alpha-Chlordane	ND	0.0017		mg/Kg-dry	1	12/18/2018
beta-BHC	ND	0.0017		mg/Kg-dry	1	12/18/2018
Chlordane	ND	0.017		mg/Kg-dry	1	12/18/2018
delta-BHC	ND	0.0017		mg/Kg-dry	1	12/18/2018
Dieldrin	ND	0.0017		mg/Kg-dry	1	12/18/2018
Endosulfan I	ND	0.0017		mg/Kg-dry	1	12/18/2018
Endosulfan II	ND	0.0017		mg/Kg-dry	1	12/18/2018
Endosulfan sulfate	ND	0.0017		mg/Kg-dry	1	12/18/2018
Endrin	ND	0.0017		mg/Kg-dry	1	12/18/2018
Endrin aldehyde	ND	0.0017		mg/Kg-dry	1	12/18/2018
Endrin ketone	ND	0.0017		mg/Kg-dry	1	12/18/2018
gamma-BHC	ND	0.0017		mg/Kg-dry	1	12/18/2018
gamma-Chlordane	ND	0.0017		mg/Kg-dry	1	12/18/2018
Heptachlor	ND	0.0017		mg/Kg-dry	1	12/18/2018
Heptachlor epoxide	ND	0.0017		mg/Kg-dry	1	12/18/2018
Methoxychlor	ND	0.0017		mg/Kg-dry	1	12/18/2018
Toxaphene	ND	0.035		mg/Kg-dry	1	12/18/2018
Herbicides in Soil		**SW8321B (SW3550B)**		Prep Date: **12/17/2018**		Analyst: **MEP**
2,4,5-TP (Silvex)	ND	0.0035		mg/Kg-dry	1	12/18/2018
2,4-D	ND	0.0035		mg/Kg-dry	1	12/18/2018
Dalapon	ND	0.035		mg/Kg-dry	1	12/18/2018
Dinoseb	ND	0.0071		mg/Kg-dry	1	12/18/2018
Pentachlorophenol	ND	0.011	*	mg/Kg-dry	1	12/18/2018
Picloram	ND	0.0071	*	mg/Kg-dry	1	12/18/2018
Metals by ICP/MS		**SW6020A (SW3050B)**		Prep Date: **12/18/2018**		Analyst: **JG**
Aluminum	1900	18		mg/Kg-dry	10	12/18/2018
Antimony	ND	1.8		mg/Kg-dry	10	12/18/2018
Arsenic	9.9	0.89		mg/Kg-dry	10	12/18/2018
Barium	12	0.89		mg/Kg-dry	10	12/18/2018
Beryllium	ND	0.45		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.45		mg/Kg-dry	10	12/18/2018
Calcium	220000	540		mg/Kg-dry	100	12/19/2018

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Date Reported: January 11, 2019
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ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-026

Client Sample ID: SB-6 (0-3)
Collection Date: 12/13/2018 11:05:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Chromium	4.0	0.89		mg/Kg-dry	10	12/18/2018
Cobalt	5.0	0.89		mg/Kg-dry	10	12/18/2018
Copper	5.3	2.2		mg/Kg-dry	10	12/18/2018
Iron	5300	27		mg/Kg-dry	10	12/18/2018
Lead	18	0.45		mg/Kg-dry	10	12/18/2018
Magnesium	130000	270		mg/Kg-dry	100	12/19/2018
Manganese	210	0.89		mg/Kg-dry	10	12/18/2018
Nickel	9.6	0.89		mg/Kg-dry	10	12/18/2018
Potassium	850	27		mg/Kg-dry	10	12/18/2018
Selenium	ND	0.89		mg/Kg-dry	10	12/18/2018
Silver	ND	0.89		mg/Kg-dry	10	12/18/2018
Sodium	ND	540		mg/Kg-dry	100	12/19/2018
Thallium	ND	0.89		mg/Kg-dry	10	12/18/2018
Vanadium	8.5	0.89		mg/Kg-dry	10	12/18/2018
Zinc	15	4.5		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.028	0.020		mg/Kg-dry	1	12/19/2018
Cyanide, Total	**SW9012A**			Prep Date: **12/18/2018**		Analyst: **CAB**
Cyanide	ND	0.27		mg/Kg-dry	1	12/18/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.10			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	6.9	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-027

Client Sample ID: SB-6 (3-6)
Collection Date: 12/13/2018 11:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Volatile Organic Compounds by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **CBG**
Acetone	ND	0.071		mg/Kg-dry	1	12/17/2018
Benzene	ND	0.0047		mg/Kg-dry	1	12/17/2018
Bromodichloromethane	ND	0.0047		mg/Kg-dry	1	12/17/2018
Bromoform	ND	0.0047		mg/Kg-dry	1	12/17/2018
Bromomethane	ND	0.0093		mg/Kg-dry	1	12/17/2018
2-Butanone	ND	0.071		mg/Kg-dry	1	12/17/2018
Carbon disulfide	ND	0.047		mg/Kg-dry	1	12/17/2018
Carbon tetrachloride	ND	0.0047		mg/Kg-dry	1	12/17/2018
Chlorobenzene	ND	0.0047		mg/Kg-dry	1	12/17/2018
Chloroethane	ND	0.0093		mg/Kg-dry	1	12/17/2018
Chloroform	ND	0.0047		mg/Kg-dry	1	12/17/2018
Chloromethane	ND	0.0093		mg/Kg-dry	1	12/17/2018
Dibromochloromethane	ND	0.0047		mg/Kg-dry	1	12/17/2018
1,1-Dichloroethane	ND	0.0047		mg/Kg-dry	1	12/17/2018
1,2-Dichloroethane	ND	0.0047		mg/Kg-dry	1	12/17/2018
1,1-Dichloroethene	ND	0.0047		mg/Kg-dry	1	12/17/2018
cis-1,2-Dichloroethene	ND	0.0047		mg/Kg-dry	1	12/17/2018
trans-1,2-Dichloroethene	ND	0.0047		mg/Kg-dry	1	12/17/2018
1,2-Dichloropropane	ND	0.0047		mg/Kg-dry	1	12/17/2018
cis-1,3-Dichloropropene	ND	0.0019		mg/Kg-dry	1	12/17/2018
trans-1,3-Dichloropropene	ND	0.0019		mg/Kg-dry	1	12/17/2018
Ethylbenzene	ND	0.0047		mg/Kg-dry	1	12/17/2018
2-Hexanone	ND	0.019		mg/Kg-dry	1	12/17/2018
4-Methyl-2-pentanone	ND	0.019		mg/Kg-dry	1	12/17/2018
Methylene chloride	ND	0.0093		mg/Kg-dry	1	12/17/2018
Methyl tert-butyl ether	ND	0.0047		mg/Kg-dry	1	12/17/2018
Styrene	ND	0.0047		mg/Kg-dry	1	12/17/2018
1,1,2,2-Tetrachloroethane	ND	0.0047		mg/Kg-dry	1	12/17/2018
Tetrachloroethene	ND	0.0047		mg/Kg-dry	1	12/17/2018
Toluene	ND	0.0047		mg/Kg-dry	1	12/17/2018
1,1,1-Trichloroethane	ND	0.0047		mg/Kg-dry	1	12/17/2018
1,1,2-Trichloroethane	ND	0.0047		mg/Kg-dry	1	12/17/2018
Trichloroethene	ND	0.0047		mg/Kg-dry	1	12/17/2018
Vinyl chloride	ND	0.0047		mg/Kg-dry	1	12/17/2018
Xylenes, Total	ND	0.014		mg/Kg-dry	1	12/17/2018
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Acenaphthene	0.057	0.039		mg/Kg-dry	1	12/19/2018
Acenaphthylene	0.097	0.039		mg/Kg-dry	1	12/19/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-027

Client Sample ID: SB-6 (3-6)
Collection Date: 12/13/2018 11:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Aniline	ND	0.39		mg/Kg-dry	1	12/19/2018
Anthracene	0.24	0.039		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	0.77	0.039		mg/Kg-dry	1	12/19/2018
Benzidine	ND	0.39		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	0.76	0.039		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	0.70	0.039		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	0.50	0.039		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	0.66	0.039		mg/Kg-dry	1	12/19/2018
Benzoic acid	ND	0.98		mg/Kg-dry	1	12/19/2018
Benzyl alcohol	ND	0.20		mg/Kg-dry	1	12/19/2018
Bis(2-chloroethoxy)methane	ND	0.20		mg/Kg-dry	1	12/19/2018
Bis(2-chloroethyl)ether	ND	0.20		mg/Kg-dry	1	12/19/2018
Bis(2-ethylhexyl)phthalate	ND	0.98		mg/Kg-dry	1	12/19/2018
4-Bromophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	12/19/2018
Butyl benzyl phthalate	ND	0.20		mg/Kg-dry	1	12/19/2018
Carbazole	ND	0.20		mg/Kg-dry	1	12/19/2018
4-Chloroaniline	ND	0.20		mg/Kg-dry	1	12/19/2018
4-Chloro-3-methylphenol	ND	0.39		mg/Kg-dry	1	12/19/2018
2-Chloronaphthalene	ND	0.20		mg/Kg-dry	1	12/19/2018
2-Chlorophenol	ND	0.20		mg/Kg-dry	1	12/19/2018
4-Chlorophenyl phenyl ether	ND	0.20		mg/Kg-dry	1	12/19/2018
Chrysene	0.82	0.039		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	0.24	0.039		mg/Kg-dry	1	12/19/2018
Dibenzofuran	ND	0.20		mg/Kg-dry	1	12/19/2018
1,2-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	12/19/2018
1,3-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	12/19/2018
1,4-Dichlorobenzene	ND	0.20		mg/Kg-dry	1	12/19/2018
3,3´-Dichlorobenzidine	ND	0.20		mg/Kg-dry	1	12/19/2018
2,4-Dichlorophenol	ND	0.20		mg/Kg-dry	1	12/19/2018
Diethyl phthalate	ND	0.20		mg/Kg-dry	1	12/19/2018
2,4-Dimethylphenol	ND	0.20		mg/Kg-dry	1	12/19/2018
Dimethyl phthalate	ND	0.20		mg/Kg-dry	1	12/19/2018
4,6-Dinitro-2-methylphenol	ND	0.39		mg/Kg-dry	1	12/19/2018
2,4-Dinitrophenol	ND	0.98		mg/Kg-dry	1	12/19/2018
2,4-Dinitrotoluene	ND	0.039		mg/Kg-dry	1	12/19/2018
2,6-Dinitrotoluene	ND	0.039		mg/Kg-dry	1	12/19/2018
Di-n-butyl phthalate	ND	0.20		mg/Kg-dry	1	12/19/2018
Di-n-octyl phthalate	ND	0.20		mg/Kg-dry	1	12/19/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-027

Client Sample ID: SB-6 (3-6)
Collection Date: 12/13/2018 11:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Semivolatile Organic Compounds by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **FP**
Fluoranthene	1.6	0.039		mg/Kg-dry	1	12/19/2018
Fluorene	0.087	0.039		mg/Kg-dry	1	12/19/2018
Hexachlorobenzene	ND	0.20		mg/Kg-dry	1	12/19/2018
Hexachlorobutadiene	ND	0.20		mg/Kg-dry	1	12/19/2018
Hexachlorocyclopentadiene	ND	0.20		mg/Kg-dry	1	12/19/2018
Hexachloroethane	ND	0.20		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	0.43	0.039		mg/Kg-dry	1	12/19/2018
Isophorone	ND	0.20		mg/Kg-dry	1	12/19/2018
2-Methylnaphthalene	ND	0.20		mg/Kg-dry	1	12/19/2018
2-Methylphenol	ND	0.20		mg/Kg-dry	1	12/19/2018
4-Methylphenol	ND	0.20		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.039		mg/Kg-dry	1	12/19/2018
2-Nitroaniline	ND	0.20		mg/Kg-dry	1	12/19/2018
3-Nitroaniline	ND	0.20		mg/Kg-dry	1	12/19/2018
4-Nitroaniline	ND	0.20		mg/Kg-dry	1	12/19/2018
2-Nitrophenol	ND	0.20		mg/Kg-dry	1	12/19/2018
4-Nitrophenol	ND	0.39		mg/Kg-dry	1	12/19/2018
Nitrobenzene	ND	0.039		mg/Kg-dry	1	12/19/2018
N-Nitrosodi-n-propylamine	ND	0.039		mg/Kg-dry	1	12/19/2018
N-Nitrosodimethylamine	ND	0.20		mg/Kg-dry	1	12/19/2018
N-Nitrosodiphenylamine	ND	0.039		mg/Kg-dry	1	12/19/2018
2, 2'-oxybis(1-Chloropropane)	ND	0.20		mg/Kg-dry	1	12/19/2018
Pentachlorophenol	ND	0.039		mg/Kg-dry	1	12/19/2018
Phenanthrene	0.98	0.039		mg/Kg-dry	1	12/19/2018
Phenol	ND	0.20		mg/Kg-dry	1	12/19/2018
Pyrene	1.4	0.039		mg/Kg-dry	1	12/19/2018
Pyridine	ND	0.79		mg/Kg-dry	1	12/19/2018
1,2,4-Trichlorobenzene	ND	0.20		mg/Kg-dry	1	12/19/2018
2,4,5-Trichlorophenol	ND	0.20		mg/Kg-dry	1	12/19/2018
2,4,6-Trichlorophenol	ND	0.20		mg/Kg-dry	1	12/19/2018
PCBs	**SW8082A (SW3550B)**			Prep Date: **12/18/2018**		Analyst: **GVC**
Aroclor 1016	ND	0.094		mg/Kg-dry	1	12/18/2018
Aroclor 1221	ND	0.094		mg/Kg-dry	1	12/18/2018
Aroclor 1232	ND	0.094		mg/Kg-dry	1	12/18/2018
Aroclor 1242	ND	0.094		mg/Kg-dry	1	12/18/2018
Aroclor 1248	ND	0.094		mg/Kg-dry	1	12/18/2018
Aroclor 1254	ND	0.094		mg/Kg-dry	1	12/18/2018
Aroclor 1260	ND	0.094		mg/Kg-dry	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-027

Client Sample ID: SB-6 (3-6)
Collection Date: 12/13/2018 11:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Pesticides		**SW8081B (SW3550B)**		Prep Date: **12/18/2018**		Analyst: **GVC**
4,4´-DDD	ND	0.0019		mg/Kg-dry	1	12/18/2018
4,4´-DDE	ND	0.0019		mg/Kg-dry	1	12/18/2018
4,4´-DDT	ND	0.0019		mg/Kg-dry	1	12/18/2018
Aldrin	ND	0.0019		mg/Kg-dry	1	12/18/2018
alpha-BHC	ND	0.0019		mg/Kg-dry	1	12/18/2018
alpha-Chlordane	ND	0.0019		mg/Kg-dry	1	12/18/2018
beta-BHC	ND	0.0019		mg/Kg-dry	1	12/18/2018
Chlordane	ND	0.019		mg/Kg-dry	1	12/18/2018
delta-BHC	ND	0.0019		mg/Kg-dry	1	12/18/2018
Dieldrin	ND	0.0019		mg/Kg-dry	1	12/18/2018
Endosulfan I	ND	0.0019		mg/Kg-dry	1	12/18/2018
Endosulfan II	ND	0.0019		mg/Kg-dry	1	12/18/2018
Endosulfan sulfate	ND	0.0019		mg/Kg-dry	1	12/18/2018
Endrin	ND	0.0019		mg/Kg-dry	1	12/18/2018
Endrin aldehyde	ND	0.0019		mg/Kg-dry	1	12/18/2018
Endrin ketone	ND	0.0019		mg/Kg-dry	1	12/18/2018
gamma-BHC	ND	0.0019		mg/Kg-dry	1	12/18/2018
gamma-Chlordane	ND	0.0019		mg/Kg-dry	1	12/18/2018
Heptachlor	ND	0.0019		mg/Kg-dry	1	12/18/2018
Heptachlor epoxide	ND	0.0019		mg/Kg-dry	1	12/18/2018
Methoxychlor	ND	0.0019		mg/Kg-dry	1	12/18/2018
Toxaphene	ND	0.039		mg/Kg-dry	1	12/18/2018
Herbicides in Soil		**SW8321B (SW3550B)**		Prep Date: **12/17/2018**		Analyst: **MEP**
2,4,5-TP (Silvex)	ND	0.0039		mg/Kg-dry	1	12/18/2018
2,4-D	ND	0.0039		mg/Kg-dry	1	12/18/2018
Dalapon	ND	0.039		mg/Kg-dry	1	12/18/2018
Dinoseb	ND	0.0079		mg/Kg-dry	1	12/18/2018
Pentachlorophenol	ND	0.012	*	mg/Kg-dry	1	12/18/2018
Picloram	ND	0.0079	*	mg/Kg-dry	1	12/18/2018
Metals by ICP/MS		**SW6020A (SW3050B)**		Prep Date: **12/18/2018**		Analyst: **JG**
Aluminum	15000	20		mg/Kg-dry	10	12/18/2018
Antimony	ND	2.0		mg/Kg-dry	10	12/18/2018
Arsenic	13	1.0		mg/Kg-dry	10	12/18/2018
Barium	220	1.0		mg/Kg-dry	10	12/18/2018
Beryllium	1.2	0.50		mg/Kg-dry	10	12/18/2018
Cadmium	1.1	0.50		mg/Kg-dry	10	12/18/2018
Calcium	36000	60		mg/Kg-dry	10	12/18/2018

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Date Reported: January 11, 2019
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ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-027

Client Sample ID: SB-6 (3-6)
Collection Date: 12/13/2018 11:10:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Chromium	29	1.0		mg/Kg-dry	10	12/18/2018
Cobalt	12	1.0		mg/Kg-dry	10	12/18/2018
Copper	92	2.5		mg/Kg-dry	10	12/18/2018
Iron	32000	30		mg/Kg-dry	10	12/18/2018
Lead	430	0.50		mg/Kg-dry	10	12/18/2018
Magnesium	20000	30		mg/Kg-dry	10	12/18/2018
Manganese	350	1.0		mg/Kg-dry	10	12/18/2018
Nickel	35	1.0		mg/Kg-dry	10	12/18/2018
Potassium	2700	30		mg/Kg-dry	10	12/18/2018
Selenium	2.3	1.0		mg/Kg-dry	10	12/18/2018
Silver	ND	1.0		mg/Kg-dry	10	12/18/2018
Sodium	480	60		mg/Kg-dry	10	12/19/2018
Thallium	ND	1.0		mg/Kg-dry	10	12/18/2018
Vanadium	32	1.0		mg/Kg-dry	10	12/18/2018
Zinc	340	5.0		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.33	0.023		mg/Kg-dry	1	12/19/2018
Cyanide, Total	**SW9012A**			Prep Date: **12/18/2018**		Analyst: **CAB**
Cyanide	ND	0.30		mg/Kg-dry	1	12/18/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.55			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	15.3	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
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ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-028

Client Sample ID: SB-6 (6-9)
Collection Date: 12/13/2018 11:15:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/26/2018**		Analyst: **FP**
Acenaphthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Acenaphthylene	ND	0.041		mg/Kg-dry	1	12/26/2018
Anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benz(a)anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Chrysene	ND	0.041		mg/Kg-dry	1	12/26/2018
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Fluorene	ND	0.041		mg/Kg-dry	1	12/26/2018
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/26/2018
Phenanthrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/2/2019**		Analyst: **JG**
Lead	23	1.1		mg/Kg-dry	10	1/3/2019
Mercury	**SW7471B**			Prep Date: **1/2/2019**		Analyst: **LB**
Mercury	ND	0.024		mg/Kg-dry	1	1/2/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	19.4	0.2	*	wt%	1	12/18/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-031

Client Sample ID: SB-7 (0-3)
Collection Date: 12/13/2018 11:35:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0072		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0072		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0072		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.022		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	0.076	0.042		mg/Kg-dry	1	12/19/2018
Acenaphthylene	0.87	0.042		mg/Kg-dry	1	12/19/2018
Anthracene	1.7	0.042		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	4.2	0.042		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	3.0	0.042		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	2.0	0.042		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	1.5	0.042		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	2.2	0.042		mg/Kg-dry	1	12/19/2018
Chrysene	4.7	0.042		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	0.89	0.042		mg/Kg-dry	1	12/19/2018
Fluoranthene	5.6	0.21		mg/Kg-dry	5	12/20/2018
Fluorene	0.18	0.042		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	1.3	0.042		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.042		mg/Kg-dry	1	12/19/2018
Phenanthrene	11	0.21		mg/Kg-dry	5	12/20/2018
Pyrene	9.0	0.21		mg/Kg-dry	5	12/20/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	5.2	1.1		mg/Kg-dry	10	12/18/2018
Barium	98	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	0.64	0.53		mg/Kg-dry	10	12/18/2018
Chromium	37	1.1		mg/Kg-dry	10	12/18/2018
Lead	290	0.53		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.25	0.022		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.82			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	22.0	0.2	*	wt%	1	12/18/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-032

Client Sample ID: SB-7 (6-9)
Collection Date: 12/13/2018 11:45:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.015		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.041		mg/Kg-dry	1	12/19/2018
Anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Chrysene	ND	0.041		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	12/19/2018
Fluoranthene	ND	0.041		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.041		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/19/2018
Phenanthrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Pyrene	ND	0.041		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	27	1.0		mg/Kg-dry	10	12/18/2018
Barium	64	1.0		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.52		mg/Kg-dry	10	12/18/2018
Chromium	23	1.0		mg/Kg-dry	10	12/18/2018
Lead	18	0.52		mg/Kg-dry	10	12/18/2018
Selenium	1.0	1.0		mg/Kg-dry	10	12/18/2018
Silver	ND	1.0		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	ND	0.023		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.94			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	20.0	0.2	*	wt%	1	12/18/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-033

Client Sample ID: SB-7 (9-12)
Collection Date: 12/13/2018 11:50:00 AM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A**	**(SW3050B)**		Prep Date: **1/3/2019**		Analyst: **JG**
Arsenic	9.6	1.2		mg/Kg-dry	10	1/4/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	20.3	0.2	*	wt%	1	12/18/2018

Qualifiers:
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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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E - Value above quantitation range
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-035

Client Sample ID: SB-8 (0-3)
Collection Date: 12/13/2018 12:10:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0046		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0046		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0046		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.013		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	ND	0.037		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.037		mg/Kg-dry	1	12/19/2018
Anthracene	0.040	0.037		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	0.22	0.037		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	0.24	0.037		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	0.27	0.037		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	0.18	0.037		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	0.18	0.037		mg/Kg-dry	1	12/19/2018
Chrysene	0.22	0.037		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.037		mg/Kg-dry	1	12/19/2018
Fluoranthene	0.37	0.037		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.037		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	0.14	0.037		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.037		mg/Kg-dry	1	12/19/2018
Phenanthrene	0.14	0.037		mg/Kg-dry	1	12/19/2018
Pyrene	0.33	0.037		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	3.7	0.99		mg/Kg-dry	10	12/18/2018
Barium	20	0.99		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.49		mg/Kg-dry	10	12/18/2018
Chromium	5.4	0.99		mg/Kg-dry	10	12/18/2018
Lead	33	0.49		mg/Kg-dry	10	12/18/2018
Selenium	ND	0.99		mg/Kg-dry	10	12/18/2018
Silver	ND	0.99		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.044	0.021		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.67			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	11.0	0.2	*	wt%	1	12/18/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-037

Client Sample ID: SB-8 (6-9)
Collection Date: 12/13/2018 12:20:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0048		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.015		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	0.20	0.039		mg/Kg-dry	1	12/19/2018
Acenaphthylene	0.11	0.039		mg/Kg-dry	1	12/19/2018
Anthracene	0.69	0.039		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	2.2	0.039		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	1.8	0.039		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	2.0	0.039		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	0.98	0.039		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	1.1	0.039		mg/Kg-dry	1	12/19/2018
Chrysene	2.0	0.039		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	0.59	0.039		mg/Kg-dry	1	12/19/2018
Fluoranthene	4.0	0.039		mg/Kg-dry	1	12/19/2018
Fluorene	0.26	0.039		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	0.92	0.039		mg/Kg-dry	1	12/19/2018
Naphthalene	0.047	0.039		mg/Kg-dry	1	12/19/2018
Phenanthrene	2.3	0.039		mg/Kg-dry	1	12/19/2018
Pyrene	3.3	0.039		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	5.6	1.1		mg/Kg-dry	10	12/18/2018
Barium	130	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.54		mg/Kg-dry	10	12/18/2018
Chromium	13	1.1		mg/Kg-dry	10	12/18/2018
Lead	160	0.54		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.20	0.023		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.10			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	17.5	0.2	*	wt%	1	12/18/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-038

Client Sample ID: SB-8 (9-12)
Collection Date: 12/13/2018 12:25:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Polynuclear Aromatic Hydrocarbons by GC/MS SW8270C (SW3550B)				Prep Date: **12/26/2018**		Analyst: **FP**
Acenaphthene	0.045	0.041		mg/Kg-dry	1	12/26/2018
Acenaphthylene	0.074	0.041		mg/Kg-dry	1	12/26/2018
Anthracene	0.24	0.041		mg/Kg-dry	1	12/26/2018
Benz(a)anthracene	0.95	0.041		mg/Kg-dry	1	12/26/2018
Benzo(a)pyrene	0.90	0.041		mg/Kg-dry	1	12/26/2018
Benzo(b)fluoranthene	0.93	0.041		mg/Kg-dry	1	12/26/2018
Benzo(g,h,i)perylene	0.56	0.041		mg/Kg-dry	1	12/26/2018
Benzo(k)fluoranthene	0.76	0.041		mg/Kg-dry	1	12/26/2018
Chrysene	0.98	0.041		mg/Kg-dry	1	12/26/2018
Dibenz(a,h)anthracene	0.28	0.041		mg/Kg-dry	1	12/26/2018
Fluoranthene	1.8	0.041		mg/Kg-dry	1	12/26/2018
Fluorene	0.063	0.041		mg/Kg-dry	1	12/26/2018
Indeno(1,2,3-cd)pyrene	0.50	0.041		mg/Kg-dry	1	12/26/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/26/2018
Phenanthrene	0.96	0.041		mg/Kg-dry	1	12/26/2018
Pyrene	1.6	0.041		mg/Kg-dry	1	12/26/2018
Metals by ICP/MS SW6020A (SW3050B)				Prep Date: **1/2/2019**		Analyst: **JG**
Lead	140	1.2		mg/Kg-dry	10	1/3/2019
Mercury SW7471B				Prep Date: **1/2/2019**		Analyst: **LB**
Mercury	0.29	0.021		mg/Kg-dry	1	1/2/2019
Percent Moisture D2974				Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	18.7	0.2	*	wt%	1	12/18/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
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E - Value above quantitation range
H - Holding time exceeded

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-039

Client Sample ID: SB-8 (12-15)
Collection Date: 12/13/2018 12:30:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/9/2019**		Analyst: **MDT**
Lead	16	0.54		mg/Kg-dry	10	1/10/2019
Mercury	**SW7471B**			Prep Date: **1/9/2019**		Analyst: **LB**
Mercury	ND	0.024		mg/Kg-dry	1	1/9/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	21.0	0.2	*	wt%	1	12/18/2019

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
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STAT Analysis Corporation
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Accreditations:IEPA ELAP 100445;ORELAP IL300001;AIHA-LAP, LLC 101160;NVLAP LabCode 101202-0

Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-040

Client Sample ID: SB-9 (0-3)
Collection Date: 12/13/2018 12:40:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0056		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0056		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0056		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.017		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	0.20	0.040		mg/Kg-dry	1	12/19/2018
Acenaphthylene	0.11	0.040		mg/Kg-dry	1	12/19/2018
Anthracene	0.54	0.040		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	1.5	0.040		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	1.6	0.040		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	1.3	0.040		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	0.89	0.040		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	1.2	0.040		mg/Kg-dry	1	12/19/2018
Chrysene	1.5	0.040		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	0.44	0.040		mg/Kg-dry	1	12/19/2018
Fluoranthene	3.4	0.040		mg/Kg-dry	1	12/19/2018
Fluorene	0.30	0.040		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	0.76	0.040		mg/Kg-dry	1	12/19/2018
Naphthalene	0.23	0.040		mg/Kg-dry	1	12/19/2018
Phenanthrene	3.2	0.040		mg/Kg-dry	1	12/19/2018
Pyrene	3.3	0.040		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	24	1.1		mg/Kg-dry	10	12/18/2018
Barium	190	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	1.7	0.55		mg/Kg-dry	10	12/18/2018
Chromium	27	1.1		mg/Kg-dry	10	12/18/2018
Lead	830	0.55		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.39	0.024		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.75			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	17.8	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-041

Client Sample ID: SB-9 (3-6)
Collection Date: 12/13/2018 12:45:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0046		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0046		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0046		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.013		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	ND	0.040		mg/Kg-dry	1	12/19/2018
Acenaphthylene	ND	0.040		mg/Kg-dry	1	12/19/2018
Anthracene	ND	0.040		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	ND	0.040		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	ND	0.040		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	ND	0.040		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	ND	0.040		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	ND	0.040		mg/Kg-dry	1	12/19/2018
Chrysene	ND	0.040		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.040		mg/Kg-dry	1	12/19/2018
Fluoranthene	ND	0.040		mg/Kg-dry	1	12/19/2018
Fluorene	ND	0.040		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	ND	0.040		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.040		mg/Kg-dry	1	12/19/2018
Phenanthrene	ND	0.040		mg/Kg-dry	1	12/19/2018
Pyrene	ND	0.040		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	16	1.1		mg/Kg-dry	10	12/18/2018
Barium	91	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	ND	0.55		mg/Kg-dry	10	12/18/2018
Chromium	27	1.1		mg/Kg-dry	10	12/18/2018
Lead	23	0.55		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.054	0.022		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.02			pH Units	1	12/17/2018
Organic Matter / Carbon	**D2974**			Prep Date: **1/2/2019**		Analyst: **RW**
Organic Carbon Content	1.51	0.01	*	wt%	1	1/3/2019
Organic Matter	2.60	0.01	*	wt%	1	1/3/2019

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Date Reported: January 11, 2019
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ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-041

Client Sample ID: SB-9 (3-6)
Collection Date: 12/13/2018 12:45:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Percent Moisture	**D2974**			Prep Date: **12/17/2018**	Analyst: **RW**	
Percent Moisture	17.2	0.2	*	wt%	1	12/18/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
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E - Value above quantitation range
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-042

Client Sample ID: SB-9 (6-9)
Collection Date: 12/13/2018 12:50:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **1/3/2019**		Analyst: **JG**
Arsenic	5.9	1.1		mg/Kg-dry	10	1/4/2019
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	18.4	0.2	*	wt%	1	12/18/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-045

Client Sample ID: SB-10 (0-3)
Collection Date: 12/13/2018 1:10:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0053		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0053		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0053		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.016		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	0.095	0.041		mg/Kg-dry	1	12/19/2018
Acenaphthylene	0.081	0.041		mg/Kg-dry	1	12/19/2018
Anthracene	0.43	0.041		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	1.5	0.041		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	1.5	0.041		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	1.4	0.041		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	0.94	0.041		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	1.3	0.041		mg/Kg-dry	1	12/19/2018
Chrysene	1.5	0.041		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	0.45	0.041		mg/Kg-dry	1	12/19/2018
Fluoranthene	3.0	0.041		mg/Kg-dry	1	12/19/2018
Fluorene	0.12	0.041		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	0.82	0.041		mg/Kg-dry	1	12/19/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/19/2018
Phenanthrene	1.7	0.041		mg/Kg-dry	1	12/19/2018
Pyrene	2.6	0.041		mg/Kg-dry	1	12/19/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	8.0	1.1		mg/Kg-dry	10	12/18/2018
Barium	110	1.1		mg/Kg-dry	10	12/18/2018
Cadmium	0.64	0.57		mg/Kg-dry	10	12/18/2018
Chromium	17	1.1		mg/Kg-dry	10	12/18/2018
Lead	420	0.57		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.1		mg/Kg-dry	10	12/18/2018
Silver	ND	1.1		mg/Kg-dry	10	12/18/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.35	0.025		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	7.76			pH Units	1	12/17/2018
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	20.1	0.2	*	wt%	1	12/18/2018

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Date Reported: January 11, 2019
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ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-046

Client Sample ID: SB-10 (3-6)
Collection Date: 12/13/2018 1:15:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
BTEX by GC/MS	**SW5035/8260B**			Prep Date: **12/14/2018**		Analyst: **AET**
Benzene	ND	0.0070		mg/Kg-dry	1	12/15/2018
Ethylbenzene	ND	0.0070		mg/Kg-dry	1	12/15/2018
Toluene	ND	0.0070		mg/Kg-dry	1	12/15/2018
Xylenes, Total	ND	0.021		mg/Kg-dry	1	12/15/2018
Polynuclear Aromatic Hydrocarbons by GC/MS	**SW8270C (SW3550B)**			Prep Date: **12/19/2018**		Analyst: **DM**
Acenaphthene	5.8	0.50		mg/Kg-dry	1	12/19/2018
Acenaphthylene	4.6	0.50		mg/Kg-dry	1	12/19/2018
Anthracene	25	0.50		mg/Kg-dry	1	12/19/2018
Benz(a)anthracene	55	0.50		mg/Kg-dry	1	12/19/2018
Benzo(a)pyrene	52	0.50		mg/Kg-dry	1	12/19/2018
Benzo(b)fluoranthene	38	0.50		mg/Kg-dry	1	12/19/2018
Benzo(g,h,i)perylene	25	0.50		mg/Kg-dry	1	12/19/2018
Benzo(k)fluoranthene	43	0.50		mg/Kg-dry	1	12/19/2018
Chrysene	50	0.50		mg/Kg-dry	1	12/19/2018
Dibenz(a,h)anthracene	ND	0.50		mg/Kg-dry	1	12/19/2018
Fluoranthene	110	2.5		mg/Kg-dry	5	12/20/2018
Fluorene	12	0.50		mg/Kg-dry	1	12/19/2018
Indeno(1,2,3-cd)pyrene	25	0.50		mg/Kg-dry	1	12/19/2018
Naphthalene	5.4	0.50		mg/Kg-dry	1	12/19/2018
Phenanthrene	92	2.5		mg/Kg-dry	5	12/20/2018
Pyrene	99	2.5		mg/Kg-dry	5	12/20/2018
Metals by ICP/MS	**SW6020A (SW3050B)**			Prep Date: **12/18/2018**		Analyst: **JG**
Arsenic	7.5	1.3		mg/Kg-dry	10	12/18/2018
Barium	150	1.3		mg/Kg-dry	10	12/18/2018
Cadmium	1.0	0.66		mg/Kg-dry	10	12/18/2018
Chromium	13	1.3		mg/Kg-dry	10	12/18/2018
Lead	1300	0.66		mg/Kg-dry	10	12/18/2018
Selenium	ND	1.3		mg/Kg-dry	10	12/18/2018
Silver	ND	1.3		mg/Kg-dry	10	12/18/2018
TCLP Metals by ICP/MS	**SW1311/6020A (SW3005A)**			Prep Date: **12/27/2018**		Analyst: **JG**
Lead	0.45	0.0050		mg/L	5	12/27/2018
Mercury	**SW7471B**			Prep Date: **12/18/2018**		Analyst: **LB**
Mercury	0.41	0.026		mg/Kg-dry	1	12/19/2018
pH (25 °C)	**SW9045C**			Prep Date: **12/17/2018**		Analyst: **JT**
pH	8.03			pH Units	1	12/17/2018

Qualifiers:
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-046

Client Sample ID: SB-10 (3-6)
Collection Date: 12/13/2018 1:15:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Percent Moisture	**D2974**			Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	34.2	0.2	*	wt%	1	12/18/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
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Date Reported: January 11, 2019
Date Printed: January 11, 2019

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120406 Revision 2
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120406-047

Client Sample ID: SB-10 (6-9)
Collection Date: 12/13/2018 1:20:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Polynuclear Aromatic Hydrocarbons by GC/MS SW8270C (SW3550B)				Prep Date: **12/26/2018**		Analyst: **FP**
Acenaphthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Acenaphthylene	ND	0.041		mg/Kg-dry	1	12/26/2018
Anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benz(a)anthracene	0.041	0.041		mg/Kg-dry	1	12/26/2018
Benzo(a)pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(b)fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(g,h,i)perylene	ND	0.041		mg/Kg-dry	1	12/26/2018
Benzo(k)fluoranthene	ND	0.041		mg/Kg-dry	1	12/26/2018
Chrysene	ND	0.041		mg/Kg-dry	1	12/26/2018
Dibenz(a,h)anthracene	ND	0.041		mg/Kg-dry	1	12/26/2018
Fluoranthene	0.093	0.041		mg/Kg-dry	1	12/26/2018
Fluorene	ND	0.041		mg/Kg-dry	1	12/26/2018
Indeno(1,2,3-cd)pyrene	ND	0.041		mg/Kg-dry	1	12/26/2018
Naphthalene	ND	0.041		mg/Kg-dry	1	12/26/2018
Phenanthrene	0.087	0.041		mg/Kg-dry	1	12/26/2018
Pyrene	0.075	0.041		mg/Kg-dry	1	12/26/2018
Metals by ICP/MS SW6020A (SW3050B)				Prep Date: **1/2/2019**		Analyst: **JG**
Lead	20	1.1		mg/Kg-dry	10	1/3/2019
Mercury SW7471B				Prep Date: **1/2/2019**		Analyst: **LB**
Mercury	ND	0.023		mg/Kg-dry	1	1/2/2019
Percent Moisture D2974				Prep Date: **12/17/2018**		Analyst: **RW**
Percent Moisture	20.4	0.2	*	wt%	1	12/18/2018

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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CHAIN OF CUSTODY RECORD

Nº: 866210 **Page :** 1 **of** 3

Company: BEI
Project Number: 16-2FMEHS-00073 Client Tracking No.:
Project Name: Fifth Ave Eco Orchard
Project Location: 3001-11 W. Fifth Ave.
Sampler(s): Tom Brechbiesen
Report To: Tom Brechbiesen Phone: 773-334-3944
Fax:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:
SB-1 (0-3)	12/13/18	8:15	S		✓	F	4		001
SB-1 (3-6)	12/13/18	8:20	S		✓	F	4		002
SB-1 (6-9)	12/13/18	8:30	S		✓	F	4		003
SB-1 (9-12)	12/13/18	8:35	S		✓	F	4		004
SB-1 (12-15)	12/13/18	8:40	S		✓	F	4		005
SB-2 (0-3)	12/13/18	8:55	S		✓	F	5		006
SB-2 (3-6)	12/13/18	9:00	S		✓	F	5		007
SB-2 (6-9)	12/13/18	9:05	S		✓	F	4		008
SB-2 (9-12)	12/13/18	9:10	S		✓	F	4		009
SB-2 (12-15)	12/13/18	9:15	S		✓	F	4		010
SB-3 (0-3)	12/13/18	9:25	S		✓	F	4		011
SB-3 (3-6)	12/13/18	9:30	S		✓	F	4		012
SB-3 (6-9)	12/13/18	9:35	S		✓	F	4		013
SB-3 (9-12)	12/13/18	9:40	S		✓	F	4		014
SB-3 (12-15)	12/13/18	9:45	S		✓	F	4		015
SB-4 (0-3)	12/13/18	10:00	S		✓	F	4		016
SB-4 (3-6)	12/13/18	10:05	S		✓	F	4		017
SB-4 (6-9)	12/13/18	10:10	S		✓	F	4		018
SB-4 (9-12)	12/13/18	10:15	S		✓	F	4		019
SB-4 (12-15)	12/13/18	10:20	S		✓	F	4		020

Relinquished by: (Signature) Thomas A. Brechbiesen Date/Time: 12-13-18/16:08
Received by: (Signature) [signature] Date/Time: 12/13/18 16:08
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: HOLD All Samples

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 18120406

Received on Ice: Yes ✓ No

Temperature: 4.4 °C

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CHAIN OF CUSTODY RECORD

Nº: 866211 **Page :** 2 of 3

Company: BEI
Project Number: 16-2FMEHS-00013 Client Tracking No.:
Project Name: Fifth Ave Eco Orchard
Project Location: 3001-11 W. Fifth Ave
Sampler(s): Tom Brechbiel
Report To: Tom Brechbiel Phone: 773-334-3944
Fax:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:
SB-5 (0-3)	12/13/18	10:30	S		✓	F	5		021
SB-5 (3-6)	12/13/18	10:35	S		✓	F	5		022
SB-5 (6-9)	12/13/18	10:40	S		✓	F	4		023
SB-5 (9-12)	12/13/18	10:45	S		✓	F	4		024
SB-5 (12-15)	12/13/18	10:50	S		✓	F	4		025
SB-6 (0-3)	12/13/18	11:05	S		✓	F	5		026
SB-6 (3-6)	12/13/18	11:10	S		✓	F	5		027
SB-6 (6-9)	12/13/18	11:15	S		✓	F	4		028
SB-6 (9-12)	12/13/18	11:20	S		✓	F	4		029
SB-6 (12-15)	12/13/18	11:25	S		✓	F	4		030
SB-7 (0-3)	12/13/18	11:35	S		✓	F	4		031
~~SB-7 (3-6)~~							0		032
SB-7 (6-9)	12/13/18	11:45	S		✓	F	4		032
SB-7 (9-12)	12/13/18	11:50	S		✓	F	4		033
SB-7 (12-15)	12/13/18	12:00	S		✓	F	4		034
SB-8 (0-3)	12/13/18	12:10	S		✓	F	5		035
SB-8 (3-6)	12/13/18	12:15	S		✓	F	5		036
SB-8 (6-9)	12/13/18	12:20	S		✓	F	5		037
SB-8 (9-12)	12/13/18	12:25	S		✓	F	4		038
SB-8 (12-15)	12/13/18	12:30	S		✓	F	4		039

Relinquished by: (Signature) Thomas A. Brechbiel Date/Time: 12-13-18/16:08
Received by: (Signature) Date/Time: 12/13/18/16:08
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: HOLD All Samples

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 14120406

Received on Ice: Yes ✓ No

Temperature: 4.4°C

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CHAIN OF CUSTODY RECORD

Nº: 866212 **Page :** 3 **of** 3

Company: BEI
Project Number: 16-2EMEHS-000013 Client Tracking No.:
Project Name: Fifth Ave Eco Orchard
Project Location: 3001-11 W. Fifth Ave.
Sampler(s): Tom Brecheisen
Report To: Tom Brecheisen Phone: 773-334-3944
Fax:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around:
Results Needed:
/ / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:
SB-9 (0-3)	12/13/18	12:40	S		✓	F	4		040
SB-9 (3-6)	12/13/18	12:45	S		✓	F	4		041
SB-9 (6-9)	12/13/18	12:50	S		✓	F	4		042
SB-9 (9-12)	12/13/18	12:55	S		✓	F	4		043
SB-9 (12-15)	12/13/18	13:00	S		✓	F	4		044
SB-10 (0-3)	12/13/18	13:10	S		✓	F	4		045
SB-10 (3-6)	12/13/18	13:15	S		✓	F	4		046
SB-10 (6-9)	12/13/18	13:20	S		✓	F	4		047
SB-10 (9-12)	12/13/18	13:25	S		✓	F	4		048
SB-10 (12-15)	12/13/18	13:30	S		✓	F	4		049

Relinquished by: (Signature) Thomas A. Brecheisen Date/Time: 12-13-18 / 16:08
Received by: (Signature) Date/Time: 12/13/18 16:08
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: HOLD All Samples

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 18120406

Received on Ice: Yes ✓ No

Temperature: 4.4 °C

STAT Analysis Corporation

Sample Receipt Checklist

Client Name BEI | Date and Time Received: 12/13/2018 4:08:00 PM

Work Order Number 18120406 | Received by: EAA

Checklist completed by: _____ 12/13/18 (Signature / Date) | Reviewed by: JOK 12/17/18 (Initials / Date)

Matrix: | Carrier name | Client Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature 4.4 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by:
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted?

Any No response must be detailed in the comments section below.

Comments: The 40z container labeled SB-3 (0-3) was received empty.

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

Craig Chawla

From: Tom Brecheisen <tom@beichicago.com>
Sent: Monday, December 24, 2018 10:05 AM
To: Craig Chawla
Subject: Re: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11 W. Fifth Ave. 18120406

Hi Craig,

Please analyze the following soil samples for PNAs:

SB-2 (6-9)
SB-4 (6-9)
SB-6 (6-9)
SB-8 (9-12)
SB-10 (6-9)

Please also note that the hold time for these samples will expire beginning Thursday morning, December 27th.

Thank you and regards,

Tom

On Fri, Dec 21, 2018 at 6:31 PM Craig Chawla <cchawla@statanalysis.com> wrote:

> Tom,
>
> Attached is the report for project 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11 W. Fifth Ave. received 12/13/2018.
>
> Please let me know if additional analysis is needed, if not, I will issue the invoice.
>
> Craig Chawla
>
> STAT Analysis Corporation
>
> (312)733-0551
>
>

Sebastian Slazyk

From: Tom Brecheisen <tom@beichicago.com>
Sent: Wednesday, December 26, 2018 10:17 AM
To: Craig Chawla; Sebastian Slazyk; Justice Kwateng
Subject: Re: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11 W. Fifth Ave. 18120406

Hi Sebastian,

Per our recent conversation, please CANCEL the previously ordered TCLP SVOC extractions and PROCEED with the TCLP LEAD analyses.

Please let me know if you have any questions.

Thank you and regards,

Tom

On Wed, Dec 26, 2018 at 9:52 AM Tom Brecheisen <tom@beichicago.com> wrote:

> Thank you Craig,
>
> Please extract the following samples for possible TCLP SVOC analyses in order to extend the hold time for an additional 7 days (per Sebastian):
>
> SB-4 (0-3)
> SB-10 (3-6)
>
> I will also need the following soil samples analyzed for TCLP Lead:
>
> SB-1 (0-3)
> SB-4 (0-3)
> SB-10 (3-6)
>
> Please call me if you have any questions or concerns.
>
> Thanks again and regards,
>
> Tom
>
> On Wed, Dec 26, 2018 at 8:02 AM Craig Chawla <cchawla@statanalysis.com> wrote:
>
>> Hi Tom,
>>
>> We have added the analysis and will make sure to get the extractions done before the expiration of hold time.

Justice Kwateng

From: Tom Brecheisen <tom@beichicago.com>
Sent: Friday, December 28, 2018 5:05 PM
To: Craig Chawla
Cc: Sebastian Slazyk; Justice Kwateng
Subject: Re: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11 W. Fifth Ave. 18120406

Hi Craig,

Please analyze the following samples that were submitted on hold:

SB-1 (6-9): Chromium
SB-2 (6-9): Lead and mercury
SB-3 (9-12): Chromium/pH
SB-4 (6-9): Lead
SB-6 (6-9): Lead and mercury
SB-7 (9-12): Arsenic
SB-8 (9-12): Lead and mercury
SB-9 (6-9): Arsenic
SB-10 (6-9): Lead and mercury

Please analyze the following samples for Foc:

SB-1 (0-3)
SB-5 (6-9)
SB-9 (3-6)

Let me know if you have any questions or concerns.

Thank you and regards,

Tom

> On Dec 26, 2018, at 11:35 AM, Craig Chawla <cchawla@statanalysis.com> wrote:
>
> Got it – No problem Tom. We have added the TCLP lead analysis.
>
> Craig Chawla
> STAT Analysis Corporation
> (312)733-0551
>
>
>
> **From:** Tom Brecheisen [mailto:tom@beichicago.com]
> **Sent:** Wednesday, December 26, 2018 10:17 AM

Craig Chawla

From: Tom Brecheisen <tom@beichicago.com>
Sent: Wednesday, January 09, 2019 2:31 PM
To: Craig Chawla
Subject: Re: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11 W. Fifth Ave. 18120406

Hi Craig,

Please analyze the following samples that were previously submitted on Hold:

SB-3 (3-6): RCRA metals/pH
SB-8 (12-15): Lead, mercury

Thank you and regards,

Tom

Brecheisen Engineering, Inc.
5430 N. Sheridan Rd., Suite 807
Chicago, Illinois 60640
773-334-3944
tom@beichicago.com

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

December 27, 2018

Brecheisen Engineering, Inc.
516 W. Briar, Suite 12A
Chicago, IL 60614-
Telephone: (312) 659-0052
Fax: (312) 640-0115

Analytical Report for STAT Work Order: 18120407 Revision 0

RE: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11 W. Fifth Ave.

Dear Tom Brecheisen:

STAT Analysis received 2 samples for the referenced project on 12/13/2018 4:08:00 PM. The analytical results are presented in the following report.

All analyses were conducted at the University of Illinois at Chicago, Department of Civil Engineering under the supervision of Dr. Krishna Reddy. All analyses were performed in accordance with methods as referenced on the analytical report.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Brandon Young
Project Manager

STAT Analysis Corporation

Date: December 27, 2018

Client: Brecheisen Engineering, Inc.
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-11
Work Order: 18120407 Revision 0

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
18120407-001A	SB-3 (6-9)		12/13/2018 9:35:00 AM	12/13/2018
18120407-002A	SB-9 (12-15)		12/13/2018 1:00:00 PM	12/13/2018

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2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations:IEPA ELAP 100445;ORELAP IL300001;AIHA-LAP, LLC 101160;NVLAP LabCode 101202-0

Date Reported: December 27, 2018
Date Printed: December 27, 2018

ANALYTICAL RESULTS

Client: Brecheisen Engineering, Inc.
Work Order: 18120407 Revision 0
Project: 16-2FMEHS-00013, Fifth Ave. Eco Orchard, 3001-
Lab ID: 18120407-002

Client Sample ID: SB-9 (12-15)
Collection Date: 12/13/2018 1:00:00 PM
Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Hydraulic Conductivity	**D5084**			Prep Date:		Analyst: **SUB**
Hydraulic Conductivity	2.5E-08		*	cm/s	1	12/22/2018

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

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e-mail address: STATinfo@STATAnalysis.com *AIHA, NVLAP and NELAP accredited*

CHAIN OF CUSTODY RECORD

N°: 866213 **Page :** 1 **of** 1

Company: BEI
Project Number: 16-2FMELHS-00013 Client Tracking No.:
Project Name: Fifth Ave. Eco Orchard
Project Location: 3001-11 W. Fifth Ave.
Sampler(s): Tom Brecheisen
Report To: Tom Brecheisen Phone: 773-334-3944
Fax:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around:
Results Needed:
/ / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:
SB-3(6-9)	12/13/18	9:35	S		✓	A	1		001
SB-9(12-15)	12/13/18	13:00	S		✓	A	1		002

Relinquished by: (Signature) Thomas A. Brecheisen Date/Time: 12-13-18/16:28
Received by: (Signature) Date/Time: 12/13/18 16:08
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: HOLD All Samples

Preservation Code: A = None B = HNO_3 C = NaOH
D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 18120407

Received on Ice: Yes X No ____
Temperature: Ambient °C

STAT Analysis Corporation

Sample Receipt Checklist

Client Name BEI | Date and Time Received: 12/13/2018 4:08:00 PM

Work Order Number 18120407 | Received by: EAA

Checklist completed by: _____ 12/13/18 (Signature / Date) | Reviewed by: _____ 12/17/18 (Initials / Date)

Matrix: | Carrier name | Client Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑	
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature Ambient °C	
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes ☒	No ☒	
Water - Samples pH checked?	Yes ☒	No ☒	Checked by: _____	
Water - Samples properly preserved?	Yes ☒	No ☒	pH Adjusted? _____	

Any No response must be detailed in the comments section below.

Comments: _____

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

STAT Analysis Corporation
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e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

No: 866210 **Page:** 1 of 3

Company: BEI
Project Number: 16-2FMEHS-00073 Client Tracking No.:
Project Name: Fifth Ave Eco Overlayed
Project Location: 3001-11 W. Fifth Ave.
Sampler(s): Tom Brechlisen
Report To: Tom Brechlisen Phone: 773-334-3944
Fax:
QC Level: 1 2 3 4 e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around: Std.
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	VOCs	SVOCs	TAL Inorganics/pH	PCBs/pesticides/Herbicides	RCRA Metals/pH	PNAs	BETX	HOLD	Remarks	Lab No.:
SB-1 (0-3)	12/13/18	8:15	S		✓	F	4			✓	✓	✓					001
SB-1 (3-6)	12/13/18	8:20	S		✓	F	4			✓	✓	✓					002
SB-1 (6-9)	12/13/18	8:30	S		✓	F	4								✓		003
SB-1 (9-12)	12/13/18	8:35	S		✓	F	4								✓		004
SB-1 (12-15)	12/13/18	8:40	S		✓	F	4								✓		005
SB-2 (0-3)	12/13/18	8:55	S		✓	F	5			✓	✓	✓					006
SB-2 (3-6)	12/13/18	9:00	S		✓	F	5			✓	✓	✓					007
SB-2 (6-9)	12/13/18	9:05	S		✓	F	4								✓		008
SB-2 (9-12)	12/13/18	9:10	S		✓	F	4								✓		009
SB-2 (12-15)	12/13/18	9:15	S		✓	F	4								✓		010
SB-3 (0-3)	12/13/18	9:25	S		✓	F	4			✓	✓	✓					011
SB-3 (3-6)	12/13/18	9:30	S		✓	F	4								✓		012
SB-3 (6-9)	12/13/18	9:35	S		✓	F	4			✓	✓	✓					013
SB-3 (9-12)	12/13/18	9:40	S		✓	F	4								✓		014
SB-3 (12-15)	12/13/18	9:45	S		✓	F	4								✓		015
SB-4 (0-3)	12/13/18	10:00	S		✓	F	4			✓	✓	✓					016
SB-4 (3-6)	12/13/18	10:05	S		✓	F	4			✓	✓	✓					017
SB-4 (6-9)	12/13/18	10:10	S		✓	F	4								✓		018
SB-4 (9-12)	12/13/18	10:15	S		✓	F	4								✓		019
SB-4 (12-15)	12/13/18	10:20	S		✓	F	4								✓		020

Relinquished by: (Signature) Thomas A. Brechlisen Date/Time: 12-13-18/16:08
Received by: (Signature) [illegible] Date/Time: 12/13/18 16:08
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: HOLD All Samples

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 18C20406

Received on Ice: Yes ✓ No

Temperature: 4.4 °C

STAT Analysis Corporation

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e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

No.: 866211 Page: 2 of 3

Company: BEI
Project Number: 16-2FMEIIS-00013 Client Tracking No.:
Project Name: Fifth Ave Eco Gardens
Project Location: 3001-11 W. Fifth Ave
Sampler(s): Tom Brechbiesen
Report To: Tom Brechbiesen Phone: 773-334-3944
Fax:
QC Level: 1 2 3 4 e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around: Std.
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	VOCs	SVOCs	TAL Inorganics/pH	PCBs/Pesticides/Herbicides	BETX	PNAs	RCRA Metals/pH	HOLD	Remarks	Lab No.:
SB-5 (0-3)	12/13/18	10:30	S		✓	F	5					✓	✓	✓			021
SB-5 (3-6)	12/13/18	10:35	S		✓	F	5								✓		022
SB-5 (6-9)	12/13/18	10:40	S		✓	F	4					✓	✓	✓			023
SB-5 (9-12)	12/13/18	10:45	S		✓	F	4								✓		024
SB-5 (12-15)	12/13/18	10:50	S		✓	F	4								✓		025
SB-6 (0-3)	12/13/18	11:05	S		✓	F	5	✓	✓	✓	✓	✓					026
SB-6 (3-6)	12/13/18	11:10	S		✓	F	5	✓	✓	✓	✓	✓					027
SB-6 (6-9)	12/13/18	11:15	S		✓	F	4								✓		028
SB-6 (9-12)	12/13/18	11:20	S		✓	F	4								✓		029
SB-6 (12-15)	12/13/18	11:25	S		✓	F	4								✓		030
SB-7 (0-3)	12/13/18	11:35	S		✓	F	4					✓	✓	✓			031
~~SB-7 (3-6)~~							0								✓		~~033~~
SB-7 (6-9)	12/13/18	11:45	S		✓	F	4					✓	✓	✓			032
SB-7 (9-12)	12/13/18	11:50	S		✓	F	4								✓		033
SB-7 (12-15)	12/13/18	12:00	S		✓	F	4								✓		034
SB-8 (0-3)	12/13/18	12:10	S		✓	F	5					✓	✓	✓			035
SB-8 (3-6)	12/13/18	12:15	S		✓	F	5								✓		036
SB-8 (6-9)	12/13/18	12:20	S		✓	F	5					✓	✓	✓			037
SB-8 (9-12)	12/13/18	12:25	S		✓	F	4								✓		038
SB-8 (12-15)	12/13/18	12:30	S		✓	F	4								✓		039

Relinquished by: (Signature) Thomas A. Brechbiesen Date/Time: 12-13-18/16:08
Received by: (Signature) Elsa Date/Time: 12/13/18/16:08
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: HOLD All Samples

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 18120406

Received on Ice: Yes ✓ No

Temperature: 4.4°C

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e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

Nº: 866212 **Page:** 3 of 3

Company: BEI
Project Number: 16-2EMGHS-00013 Client Tracking No.:
Project Name: Fifth Ave Eco Orchard
Project Location: 3001-11 W. Fifth Ave.
Sampler(s): Tom Brecheisen
Report To: Tom Brecheisen Phone: 773-334-3944
Fax:
QC Level: 1 2 3 4 e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around: Std.
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	BETX	PNAs	RCRA Metals/pH	HOLD	Remarks	Lab No.:
SB-9 (0-3)	12/13/18	12:40	S		✓	F	4	✓	✓	✓			040
SB-9 (3-6)	12/13/18	12:45	S		✓	F	4	✓	✓	✓			041
SB-9 (6-9)	12/13/18	12:50	S		✓	F	4				✓		042
SB-9 (9-12)	12/13/18	12:55	S		✓	F	4				✓		043
SB-9 (12-15)	12/13/18	13:00	S		✓	F	4				✓		044
SB-10 (0-3)	12/13/18	13:10	S		✓	F	4	✓	✓	✓			045
SB-10 (3-6)	12/13/18	13:15	S		✓	F	4	✓	✓	✓			046
SB-10 (6-9)	12/13/18	13:20	S		✓	F	4				✓		047
SB-10 (9-12)	12/13/18	13:25	S		✓	F	4				✓		048
SB-10 (12-15)	12/13/18	13:30	S		✓	F	4				✓		049

Relinquished by: (Signature) Thomas A. Brecheisen Date/Time: 12-13-18 / 16:08
Received by: (Signature) Date/Time: 12/13/18 16:08
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:
Relinquished by: (Signature) Date/Time:
Received by: (Signature) Date/Time:

Comments: HOLD All Samples

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 18120406

Received on Ice: Yes ✓ No

Temperature: 4.4 °C

STAT Analysis Corporation
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e-mail address: STATinfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

Nº: 866213 **Page:** 1 of 1

Company: BEI
Project Number: 16-2FMEHS-00013 Client Tracking No.:
Project Name: Fifth Ave. Eco Orchard
Project Location: 3001-11 W. Fifth Ave.
Sampler(s): Tom Brecheisen
Report To: Tom Brecheisen Phone: 773-334-3944
Fax:
QC Level: 1 ____ 2 ____ 3 ____ 4 ____ e-mail: tom@beichicago.com

P.O. No.:
Quote No.:

Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Hydraulic Conductivity by D5084	HOLD	Remarks	Lab No.:
SB-3(6-9)	12/13/18	9:35	S		✓	A	1		✓		001
SB-9(12-15)	12/13/18	13:00	S		✓	A	1	✓			002

Relinquished by: (Signature) Thomas A. Brecheisen	Date/Time: 12-13-18/16:08	Comments: HOLD All Samples
Received by: (Signature) Ellen	Date/Time: 12/13/18 16:08	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	
Relinquished by: (Signature)	Date/Time:	
Received by: (Signature)	Date/Time:	

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: 18120407

Received on Ice: Yes [X] No [ ]
Temperature: Ambient

APPENDIX H

Groundwater Analytical Results

GRACE ANALYTICAL LAB, INC.
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January 08, 2019

Tom Brecheisen
Brecheisen Engineering, Inc.
1700 N. North Park Ave, S-B
Chicago, IL 60614

Project ID: 16-2FMEHS-00013
Grace Analytical Job ID: 8121803

The above referenced project was analyzed as directed on the enclosed Chain of Custody record. Analyses were performed in accordance with requirements of 35 IAC 186(Accreditation #100246) and within holding time. Quality control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference.

Request for duplications or reproductions of these analytical reports must be made in writing to GAL and signed by an authorized agent. The analytical results relate only to the samples analyzed.
GAL seeks you feedback, both positive and negative, on our performance. Please contact us for a copy of our feedback form or submit your comments to us at feedback@gracelabinc.com.

Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (708) 449-9449 or e-mail skim@gracelabinc.com.

Sincerely,

Steven Kim, Ph.D.
Laboratory Director
Grace Analytical Lab, Inc.

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Brecheisen Engineering, Inc.
1700 N. North Park Ave, S-B
Chicago IL, 60614

Project Name: 3001-11 W. Fifth Ave
Project Number: 16-2FMEHS-00013
Project Manager: Tom Brecheisen

SN: 201918161356
Reported By: AM
01/08/19 16:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TMW-1	8121803-01	Ground Water	12/17/18 15:15	12/18/18 12:50
TMW-2	8121803-02	Ground Water	12/17/18 15:30	12/18/18 12:50
TMW-3	8121803-03	Ground Water	12/17/18 15:45	12/18/18 12:50
TMW-4	8121803-04	Ground Water	12/17/18 16:00	12/18/18 12:50

CASE NARRATIVES

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918161356
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:13

Client Sample ID: TMW-1

Lab Sample ID: 8121803-01 (Ground Water)

Grace Analytical Lab, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260B								
Benzene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Ethyl Alcohol	ND	10	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Ethylbenzene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Hexane	ND	1	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Toluene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Xylenes, total	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Acenaphthene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Acenaphthylene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Anthracene	ND	0.50	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (a) anthracene	ND	0.10	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (a) pyrene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (b) fluoranthene	ND	0.18	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (g,h,i) perylene	ND	0.30	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (k) fluoranthene	ND	0.17	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Chrysene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Dibenz (a,h) anthracene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Fluoranthene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Fluorene	ND	2.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Indeno(1,2,3-cd)pyrene	ND	0.30	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Naphthalene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Phenanthrene	ND	0.50	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Pyrene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918161356
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:13

Client Sample ID: TMW-2

Lab Sample ID: 8121803-02 (Ground Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Grace Analytical Lab, Inc.								
Volatile Organic Compounds by EPA Method 8260B								
Benzene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Ethyl Alcohol	ND	10	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Ethylbenzene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Hexane	ND	1	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Toluene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Xylenes, total	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Acenaphthene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Acenaphthylene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Anthracene	ND	0.50	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (a) anthracene	ND	0.10	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (a) pyrene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (b) fluoranthene	ND	0.18	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (g,h,i) perylene	ND	0.30	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (k) fluoranthene	ND	0.17	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Chrysene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Dibenz (a,h) anthracene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Fluoranthene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Fluorene	ND	2.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Indeno(1,2,3-cd)pyrene	ND	0.30	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Naphthalene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Phenanthrene	ND	0.50	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Pyrene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
First Environmental Laboratories Inc.								
Total Mercury								
Mercury	ND	0.0005	mg/L	1	12/17/18	12/28/18	7470A	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918161356
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:13

Client Sample ID: TMW-2

Lab Sample ID: 8121803-02 (Ground Water)

First Environmental Laboratories Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Total Metals								
Arsenic	ND	0.01	mg/L	1	12/26/18	12/27/18	6010C	
Barium	**0.022**	0.005	mg/L	1	12/26/18	12/27/18	6010C	
Cadmium	ND	0.005	mg/L	1	12/26/18	12/27/18	6010C	
Chromium	ND	0.005	mg/L	1	12/26/18	12/27/18	6010C	
Lead	**0.013**	0.005	mg/L	1	12/26/18	12/27/18	6010C	
Selenium	ND	0.01	mg/L	1	12/26/18	12/27/18	6010C	
Silver	ND	0.005	mg/L	1	12/26/18	12/27/18	6010C	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918161356
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:13

Client Sample ID: TMW-3

Lab Sample ID: 8121803-03 (Ground Water)

Grace Analytical Lab, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Volatile Organic Compounds (GC/MS)								
1,1,1-Trichloroethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
1,1,2-Trichloroethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
1,1-Dichloroethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
1,1-Dichloroethylene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
1,2-Dichloroethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
1,2-Dichloropropane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
2-Butanone	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
2-Hexanone	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Acetone	ND	100	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Benzene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Bromodichloromethane	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Bromoform	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Bromomethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Carbon disulfide	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Carbon Tetrachloride	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Chlorobenzene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Chloroethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Chloroform	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Chloromethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
cis-1,2-Dichloroethylene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
cis-1,3-Dichloropropylene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Dibromochloromethane	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Ethylbenzene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Methyl Isobutyl Ketone	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Methylene Chloride	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Methyl-tert-Butyl Ether	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Styrene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Tetrachloroethene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Toluene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
trans-1,2-Dichloroethylene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	
trans-1,3-Dichloropropylene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Trichloroethene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Vinyl chloride	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260C	
Xylenes, total	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260C	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918161356
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:13

Client Sample ID: TMW-4

Lab Sample ID: 8121803-04 (Ground Water)

Grace Analytical Lab, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Volatile Organic Compounds by EPA Method 8260B								
Benzene	ND	2	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Ethyl Alcohol	ND	10	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Ethylbenzene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Hexane	ND	1	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Toluene	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Xylenes, total	ND	5	ug/L	1	12/20/18	12/21/18	EPA 8260B	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Acenaphthene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Acenaphthylene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Anthracene	ND	0.50	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (a) anthracene	ND	0.10	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (a) pyrene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (b) fluoranthene	ND	0.18	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (g,h,i) perylene	ND	0.30	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Benzo (k) fluoranthene	ND	0.17	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Chrysene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Dibenz (a,h) anthracene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Fluoranthene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Fluorene	ND	2.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Indeno(1,2,3-cd)pyrene	ND	0.30	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Naphthalene	ND	1.00	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Phenanthrene	ND	0.50	ug/L	1	12/21/18	12/22/18	EPA 8270C	
Pyrene	ND	0.20	ug/L	1	12/21/18	12/22/18	EPA 8270C	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918161356
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:13

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Grace Analytical lab, inc.

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GRACE ANALYTICAL LAB, INC.

CHAIN OF CUSTODY PAGE 1 OF 1

PHONE (708) 449-9449 FAX (708) 449-3663
5300-B McDermott Drive Berkeley, IL 60163

8121803

CLIENT INFORMATION	
Project Manager:	Tom Brechbiesen
Company:	Brechbiesen Engineering, Inc. 5430 N. Sheridan Rd. #807 Chicago, IL 60640
Phone: 773-334-3944 Fax:	
Project Name:	3001-11 W. Fifth Ave.
Project ID#:	16-2FMEHS-00013
Sampler:	Tom Brechbiesen

SAMPLE RECEIVING RECORDS
Samples Received On Ice ☑ YES ☐ NO
Sample Temperature(If not On Ice) 3.7 c
Samples Intact/Not Leaking ☑ YES ☐ NO

SAMPLE CHARACTERISTICS
☐ NONHAZARDOUS
☐ Special Handling Required (Please Describe:)

TURNAROUND Standard
Date Required:
Schedule in advance to insure RUSH Processing
Comments / Special Instructions

QC Levels: ___ None ___ Level 2 ___ Level 3 ___ Level 4

GAL SAMPLE ID	FIELD ID, LOCATION / DESCRIPTION	DATE	TIME	MATRIX	Number of Containers	PRESERVATIVE	ANALYSIS NEEDED:	VOCs	BETX	PNAs	RCRA metals				REMARKS
8121803-01	TMW-1	12/17/18	15:15	GW	3				✓	✓					
-02	TMW-2	12/17/18	15:30	GW	4				✓	✓	✓				
-03	TMW-3	12/17/18	15:45	GW	2			✓							
-04	TMW-4	12/17/18	16:00	GW	3				✓	✓					

MATRIX: Soil (S), Surface Water (SW), Ground Water (GW), Waste Water (WW), Waste/Solid (W/S), Waste/Liquid (W/L), Drinking Water (DW), Air Cassettes (AC); Note if COMPOSITE (C) or GRAB (G)
PRESERVATIVE: Nitric Acid (HNO_3), Hydrochloric Acid (HCl), Sodium Hydroxide (NaOH), Sulfuric Acid (H_2SO_4), Sodium Bisulfate ($NaHSO_4$), Methanol(CH_3OH), None

Relinquished By (Signature):	Date/Time:	Received By (Signature):	Date/Time:	Relinquished By (Signature):	Date/Time:	Received For Lab By (Signature):	Date/Time:
Thomas A. Brechbiesen	12-18-18/12:50						12-18-18 12:50
Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time	Relinquished By (Signature):	Date/Time	Received For Lab By (Signature):	Date/Time

WHITE - ORIGINAL FILE COPY CANARY - LAB COPY

Grace Analytical lab, inc.

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SAMPLE/COOLER RECEIPT FORM GAL JOB ID#: 8121803
Client Name: Brecheisen Engineering, Inc. Cooler Received/Opened: 12/18/2018 at 12:50
Project ID: 16-2FMEHS-00013

Signed by: _____
Log-In Personnel Signature

		Yes	No	NA
1.	Temperature of Cooler when triaged: 3.7 C			
2.	Were custody seals on outside of cooler?...	☐	☐	☒
3.	Were custody seals on containers intact?	☐	☐	☒
	If YES: Were the seals intact, signed, and dated correctly?	☐	☐	☐
4.	Were Chain of Custody form inside cooler?	☒	☐	☐
5.	Were Chain of Custody form properly filled out (ink, signed, etc)?.	☒	☐	☐
6.	Did you sign the Chain of Custody form in the appropriate place?	☒	☐	☐
7.	Was there packing material used	☐	☒	☐
	If YES: ☐Bubblewrap ☐Peanuts ☐Vermiculite ☐Other ☐ None			
8.	Cooling process: ☒Ice ☐Icepack ☐Ice(direct contact) ☐Dry ice ☐other ☐None			
9.	Did all containers arrive in good condition (unbroken)?	☒	☐	☐
10.	Were all container labels complete (ID #, data, signed, preserv., etc	☒	☐	☐
11.	Did all container labels and tags agree with Chain of Custody form	☒	☐	☐
12.	Were correct containers used for the analysis requested	☒	☐	☐
13.	a. Were Water VOA vials received	☒	☐	☐
	b. Was there any observable head space present in any VOA vial	☐	☒	☐
14.	Was sufficient amount of sample sent in each container	☒	☐	☐
15.	Were correct preservatives used	☒	☐	☐
	If not, record _____			
16.	Was residual chlorine present	☐	☐	☒

17. Indicate the Airbill Tracking Number and Name of Courier below:
☐Fed-Ex ☐UPS ☐Velocity ☐Airborne ☐Route ☐Misc. ☒Hand delivered ☐Picked Up

18. If a Non-Conformance exists, record reason: _____

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January 08, 2019

Tom Brecheisen
Brecheisen Engineering, Inc.
1700 N. North Park Ave, S-B
Chicago, IL 60614

Project ID: 16-2FMEHS-00013
Grace Analytical Job ID: 8122103

The above referenced project was analyzed as directed on the enclosed Chain of Custody record. Analyses were performed in accordance with requirements of 35 IAC 186(Accreditation #100246) and within holding time. Quality control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference.

Request for duplications or reproductions of these analytical reports must be made in writing to GAL and signed by an authorized agent. The analytical results relate only to the samples analyzed.
GAL seeks you feedback, both positive and negative, on our performance. Please contact us for a copy of our feedback form or submit your comments to us at feedback@gracelabinc.com.

Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (708) 449-9449 or e-mail skim@gracelabinc.com.

Sincerely,

Steven Kim, Ph.D.
Laboratory Director
Grace Analytical Lab, Inc.

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Brecheisen Engineering, Inc.
1700 N. North Park Ave, S-B
Chicago IL, 60614

Project Name: 3001-11 W. Fifth Ave
Project Number: 16-2FMEHS-00013
Project Manager: Tom Brecheisen

SN: 201918162304
Reported By: AM
01/08/19 16:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TMW-1	8122103-01	Ground Water	12/20/18 14:00	12/21/18 11:15
TMW-3	8122103-02	Ground Water	12/20/18 14:10	12/21/18 11:15
TMW-4	8122103-03	Ground Water	12/20/18 14:20	12/21/18 11:15

CASE NARRATIVES

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918162304
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:22

Client Sample ID: TMW-1

Lab Sample ID: 8122103-01 (Ground Water)

First Environmental Laboratories Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Total Mercury								
Mercury	ND	0.0005	mg/L	1	12/20/18	01/07/19	7470A	
Total Metals								
Arsenic	ND	0.01	mg/L	1	01/02/19	01/03/19	6010C	
Barium	**0.077**	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Cadmium	ND	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Chromium	ND	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Lead	ND	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Selenium	ND	0.01	mg/L	1	01/02/19	01/03/19	6010C	
Silver	ND	0.005	mg/L	1	01/02/19	01/03/19	6010C	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918162304
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:22

Client Sample ID: TMW-3

Lab Sample ID: 8122103-02 (Ground Water)

Grace Analytical Lab, Inc.

Semivolatile Organic Compounds

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
1,2,4-Trichlorobenzene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
1,2-Dichlorobenzene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
1,3-Dichlorobenzene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
1,3-Dinitrobenzene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
1,4-Dichlorobenzene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2,4,5-Trichlorophenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2,4,6-Trichlorophenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2,4-Dichlorophenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2,4-Dimethylphenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2,4-Dinitrophenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2,4-Dinitrotoluene	ND	0.0004	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2,6-Dinitrotoluene	ND	0.0007	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2-Chloronaphthalene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2-Chlorophenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2-Methylnaphthalene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2-Methylphenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2-Nitroaniline	ND	0.05	mg/L	1	12/27/18	01/03/19	EPA 8270D	
2-Nitrophenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
3,3´-Dichlorobenzidine	ND	0.02	mg/L	1	12/27/18	01/03/19	EPA 8270D	
3/4-Methylphenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
3-Nitroaniline	ND	0.05	mg/L	1	12/27/18	01/03/19	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	0.05	mg/L	1	12/27/18	01/03/19	EPA 8270D	
4-Bromophenyl phenyl ether	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
4-Chloro-3-methylphenol	ND	0.02	mg/L	1	12/27/18	01/03/19	EPA 8270D	
4-Chloroaniline	ND	0.02	mg/L	1	12/27/18	01/03/19	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
4-Nitroaniline	ND	0.02	mg/L	1	12/27/18	01/03/19	EPA 8270D	
4-Nitrophenol	ND	0.05	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Acenaphthene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Acenaphthylene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Anthracene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Benzo (a) anthracene	ND	0.002	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Benzo (a) pyrene	ND	0.003	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Benzo (b) fluoranthene	ND	0.002	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Benzo (g,h,i) perylene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Benzo (k) fluoranthene	ND	0.005	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Benzoic acid	ND	0.05	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Benzyl alcohol	ND	0.02	mg/L	1	12/27/18	01/03/19	EPA 8270D	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918162304
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:22

Client Sample ID: TMW-3

Lab Sample ID: 8122103-02 (Ground Water)

Grace Analytical Lab, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Semivolatile Organic Compounds								
Bis(2-chloroethoxy)methane	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Bis(2-chloroethyl)ether	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Bis(2-chloroisopropyl)ether	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.005	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Butyl benzyl phthalate	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Carbazole	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Chrysene	ND	0.003	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Dibenz (a,h) anthracene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Dibenzofuran	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Diethyl phthalate	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Dimethyl phthalate	ND	0.05	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Di-n-butyl phthalate	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Di-n-octyl phthalate	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Fluoranthene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Fluorene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Hexachlorobenzene	ND	0.003	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Hexachlorobutadiene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Hexachlorocyclopentadiene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Hexachloroethane	ND	0.0008	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Isophorone	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Naphthalene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Nitrobenzene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
N-Nitrosodi-n-propylamine	ND	0.0007	mg/L	1	12/27/18	01/03/19	EPA 8270D	
N-Nitrosodiphenylamine	ND	0.004	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Pentachlorophenol	ND	0.002	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Phenanthrene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Phenol	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	
Pyrene	ND	0.01	mg/L	1	12/27/18	01/03/19	EPA 8270D	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918162304
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:22

Client Sample ID: TMW-4

Lab Sample ID: 8122103-03 (Ground Water)

First Environmental Laboratories Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Total Mercury								
Mercury	ND	0.0005	mg/L	1	12/20/18	01/07/19	7470A	
Total Metals								
Arsenic	ND	0.01	mg/L	1	01/02/19	01/03/19	6010C	
Barium	**0.033**	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Cadmium	ND	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Chromium	ND	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Lead	**0.008**	0.005	mg/L	1	01/02/19	01/03/19	6010C	
Selenium	ND	0.01	mg/L	1	01/02/19	01/03/19	6010C	
Silver	ND	0.005	mg/L	1	01/02/19	01/03/19	6010C	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201918162304
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/08/19 16:22

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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CHAIN OF CUSTODY PAGE 1 OF 1

8122103

PHONE (708) 449-9449 FAX (708) 449-3663
5300-B McDermott Drive Berkeley, IL 60163

TURNAROUND Standard
Date Required:
Schedule in advance to insure RUSH Processing
Comments / Special Instructions

CLIENT INFORMATION

Project Manager: Tom Brechtisen
Company: Brechtisen Engineering, Inc. 5430 N. Sheridan Rd. #807 Chicago, IL 60640
Phone: 773-334-3944 Fax:
Project Name: 3001-11 W. Fifth Ave.
Project ID#: 16-2EMEHS-00013
Sampler: Tom Brechtisen

SAMPLE RECEIVING RECORDS

Samples Received On Ice ☑ YES ☐ NO
Sample Temperature(If not On Ice) 2.1 c
Samples Intact/Not Leaking ☑ YES ☐ NO

SAMPLE CHARACTERISTICS

☐ NONHAZARDOUS
☐ Special Handling Required (Please Describe:)

QC Levels
___ None
___ Level 2
___ Level 3
___ Level 4

GAL SAMPLE ID	FIELD ID, LOCATION / DESCRIPTION	DATE	TIME	MATRIX	Number of Containers	PRESERVATIVE	RCRA metals	SVOCs							REMARKS
8122103-01	TMW-1	12/20/18	14:00	GW	1	HNO_3	✓								
-02	TMW-3	12/20/18	14:10	GW	1	None		✓							
-03	TMW-4	12/20/18	14:20	GW	1	HNO_3	✓								

MATRIX: Soil (S), Surface Water (SW), Ground Water (GW), Waste Water (WW), Waste/Solid (W/S), Waste/Liquid (W/L), Drinking Water (DW), Air Cassettes (AC); Note if COMPOSITE (C) or GRAB (G)
PRESERVATIVE: Nitric Acid (HNO_3), Hydrochloric Acid (HCl), Sodium Hydroxide (NaOH), Sulfuric Acid (H_2SO_4), Sodium Bisulfate ($NaHSO_4$), Methanol(CH_3OH), None

Relinquished By (Signature):	Date/Time:	Received By (Signature):	Date/Time:
Thomas A. Brechtisen	12-21-18/11:15		
Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time

Relinquished By (Signature):	Date/Time:	Received For Lab By (Signature):	Date/Time:
			12/21/18 11:15
Relinquished By (Signature):	Date/Time	Received For Lab By (Signature):	Date/Time

WHITE - ORIGINAL FILE COPY CANARY - LAB COPY PINK - SAMPLER COPY

Grace Analytical lab, inc.

5300-B McDermott Dr. Berkeley, IL 60163 . Tel. (708) 449-9449 . . Fax (708) 449-3663

SAMPLE/COOLER RECEIPT FORM GAL JOB ID#: 8122103
Client Name: Brecheisen Engineering, Inc. Cooler Received/Opened: 12/21/2018 at 11:15
Project ID: 16-2FMEHS-00013

Signed by: _____
Log-In Personnel Signature

		Yes	No	NA
1.	Temperature of Cooler when triaged: 2.1 C			
2.	Were custody seals on outside of cooler?...	☐	☐	☒
3.	Were custody seals on containers intact?	☐	☐	☒
	If YES: Were the seals intact, signed, and dated correctly?	☐	☐	☐
4.	Were Chain of Custody form inside cooler?	☒	☐	☐
5.	Were Chain of Custody form properly filled out (ink, signed, etc)?.	☒	☐	☐
6.	Did you sign the Chain of Custody form in the appropriate place?	☒	☐	☐
7.	Was there packing material used	☐	☒	☐
	If YES: ☐Bubblewrap ☐Peanuts ☐Vermiculite ☐Other ☐ None			
8.	Cooling process: ☒Ice ☐Icepack ☐Ice(direct contact) ☐Dry ice ☐other ☐None			
9.	Did all containers arrive in good condition (unbroken)?	☒	☐	☐
10.	Were all container labels complete (ID #, data, signed, preserv., etc	☒	☐	☐
11.	Did all container labels and tags agree with Chain of Custody form	☒	☐	☐
12.	Were correct containers used for the analysis requested	☒	☐	☐
13.	a. Were Water VOA vials received	☒	☐	☐
	b. Was there any observable head space present in any VOA vial	☐	☒	☐
14.	Was sufficient amount of sample sent in each container	☒	☐	☐
15.	Were correct preservatives used	☒	☐	☐
	If not, record _____			
16.	Was residual chlorine present	☐	☐	☒

17. Indicate the Airbill Tracking Number and Name of Courier below:
☐Fed-Ex ☐UPS ☐Velocity ☐Airborne ☐Route ☐Misc. ☒Hand delivered ☐Picked Up

18. If a Non-Conformance exists, record reason: _____

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January 09, 2019

Tom Brecheisen
Brecheisen Engineering, Inc.
1700 N. North Park Ave, S-B
Chicago, IL 60614

Project ID: 16-2FMEHS-00013
Grace Analytical Job ID: 8122802

The above referenced project was analyzed as directed on the enclosed Chain of Custody record. Analyses were performed in accordance with requirements of 35 IAC 186(Accreditation #100246) and within holding time. Quality control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference.

Request for duplications or reproductions of these analytical reports must be made in writing to GAL and signed by an authorized agent. The analytical results relate only to the samples analyzed.
GAL seeks you feedback, both positive and negative, on our performance. Please contact us for a copy of our feedback form or submit your comments to us at feedback@gracelabinc.com.

Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (708) 449-9449 or e-mail skim@gracelabinc.com.

Sincerely,

Steven Kim, Ph.D.
Laboratory Director
Grace Analytical Lab, Inc.

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201919162727
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/09/19 16:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TMW-3	8122802-01	Ground Water	12/27/18 11:30	12/28/18 12:12
TMW-3	8122802-02	Ground Water	12/28/18 11:45	12/28/18 12:12

CASE NARRATIVES

GRACE ANALYTICAL LAB, INC.
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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201919162727
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/09/19 16:27

Client Sample ID: TMW-3

Lab Sample ID: 8122802-01 (Ground Water)

Grace Analytical Lab, Inc.

Chlorinated Pesticides and PCBs

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
4,4´-DDD	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
4,4´-DDE	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
4,4´-DDT	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aldrin	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
alpha-BHC	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aroclor-1016	ND	0.80	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aroclor-1221	ND	0.80	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aroclor-1232	ND	0.80	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aroclor-1242	ND	0.80	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aroclor-1248	ND	0.80	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aroclor-1254	ND	1.60	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Aroclor-1260	ND	1.60	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
beta-BHC	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Chlordane	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
delta-BHC	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Dieldrin	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Endosulfan I	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Endosulfan II	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Endosulfan sulfate	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Endrin	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Endrin aldehyde	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Endrin ketone	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
gamma-BHC (Lindane)	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201919162727
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/09/19 16:27

Client Sample ID: TMW-3

Lab Sample ID: 8122802-01 (Ground Water)

Grace Analytical Lab, Inc.

Chlorinated Pesticides and PCBs

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Heptachlor	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Heptachlor epoxide	ND	0.08	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Methoxychlor	ND	0.80	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	
Toxaphene	ND	0.16	ug/L	1	01/03/19	01/09/19	EPA 8081B/8082A	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201919162727
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/09/19 16:27

Client Sample ID: TMW-3

Lab Sample ID: 8122802-02 (Ground Water)

First Environmental Laboratories Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Cyanide, Total								
Cyanide, Total	ND	0.005	mg/L	1	12/28/18	01/04/19	4500CN,E	
Total Mercury								
Mercury	ND	0.0005	mg/L	1	12/28/18	01/07/19	7470A	
Total Metals								
Aluminum	**1.62**	0.1	mg/L	1	01/04/19	01/04/19	6010C	
Antimony	ND	0.006	mg/L	1	01/04/19	01/04/19	6010C	
Arsenic	ND	0.01	mg/L	1	01/04/19	01/04/19	6010C	
Barium	**0.041**	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Beryllium	ND	0.004	mg/L	1	01/04/19	01/04/19	6010C	
Cadmium	ND	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Calcium	**416**	0.5	mg/L	1	01/04/19	01/04/19	6010C	
Chromium	ND	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Cobalt	**0.011**	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Copper	**0.009**	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Iron	**2.18**	0.05	mg/L	1	01/04/19	01/04/19	6010C	
Lead	**0.035**	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Magnesium	**234**	0.5	mg/L	1	01/04/19	01/04/19	6010C	
Manganese	**0.214**	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Nickel	**0.048**	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Potassium	**14.8**	0.5	mg/L	1	01/04/19	01/04/19	6010C	
Selenium	ND	0.01	mg/L	1	01/04/19	01/04/19	6010C	
Silver	ND	0.005	mg/L	1	01/04/19	01/04/19	6010C	
Sodium	**79.3**	0.5	mg/L	1	01/04/19	01/04/19	6010C	
Thallium	ND	0.002	mg/L	1	01/04/19	01/04/19	6010C	J
Vanadium	ND	0.01	mg/L	1	01/04/19	01/04/19	6010C	
Zinc	**1.62**	0.01	mg/L	1	01/04/19	01/04/19	6010C	

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Brecheisen Engineering, Inc.	Project Name: 3001-11 W. Fifth Ave	SN: 201919162727
1700 N. North Park Ave, S-B	Project Number: 16-2FMEHS-00013	Reported By: AM
Chicago IL, 60614	Project Manager: Tom Brecheisen	01/09/19 16:27

Notes and Definitions

J	Detected but below Reporting Limit; therefore, result is an estimated concentration.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

GRACE ANALYTICAL LAB, INC.

PHONE (708) 449-9449 FAX (708) 449-3663
5300-B McDermott Drive Berkeley, IL 60163

CHAIN OF CUSTODY PAGE 1 OF 1

8122802

TURNAROUND Standard
Date Required:
Schedule in advance to insure RUSH Processing
Comments / Special Instructions

CLIENT INFORMATION
Project Manager: Tom Brecheisen
Company: Brecheisen Engineering, Inc. 5430 N. Sheridan Rd. #807 Chicago, IL 60640
Phone: 773-334-3944 Fax:
Project Name: 3001-11 W. Fifth Ave.
Project ID#: 16-2FMEHS-00013
Sampler: Tom Brecheisen

SAMPLE RECEIVING RECORDS
Samples Received On Ice ☑ YES ☐ NO
Sample Temperature(If not On Ice) 3.4 c
Samples Intact/Not Leaking ☑ YES ☐ NO

SAMPLE CHARACTERISTICS
☐ NONHAZARDOUS
☐ Special Handling Required (Please Describe:)

QC Levels
___ None
___ Level 2
___ Level 3
___ Level 4

GAL SAMPLE ID	FIELD ID, LOCATION / DESCRIPTION	DATE	TIME	MATRIX	Number of Containers	PRESERVATIVE	PCBs	Pesticides	Herbicides	TAL Inorganics					REMARKS
							ANALYSIS NEEDED								
8122802-01	TMW-3	12/27/18	11:30	GW	1	None	✓	✓	✓						
-02	TMW-3	12/28/18	11:45	GW	2	NaOH HNO_3				✓					

MATRIX: Soil (S), Surface Water (SW), Ground Water (GW), Waste Water (WW), Waste/Solid (W/S), Waste/Liquid (W/L), Drinking Water (DW), Air Cassettes (AC); Note if COMPOSITE (C) or GRAB (G)
PRESERVATIVE: Nitric Acid (HNO_3), Hydrochloric Acid (HCl), Sodium Hydroxide (NaOH), Sulfuric Acid (H_2SO_4), Sodium Bisulfate ($NaHSO_4$), Methanol(CH_3OH), None

Relinquished By (Signature):	Date/Time:	Received By (Signature):	Date/Time:	Relinquished By (Signature):	Date/Time:	Received For Lab By (Signature):	Date/Time:
Thomas A. Brecheisen	12-28-18/12:12						12-28-18 14:12
Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time	Relinquished By (Signature):	Date/Time	Received For Lab By (Signature):	Date/Time

WHITE - ORIGINAL FILE COPY CANARY - LAB COPY PINK - SAMPLER COPY

Grace Analytical lab, inc.

5300-B McDermott Dr. Berkeley, IL 60163 . Tel. (708) 449-9449 . . Fax (708) 449-3663

SAMPLE/COOLER RECEIPT FORM GAL JOB ID#: 8122802
Client Name: Brecheisen Engineering, Inc. Cooler Received/Opened: 12/28/2018 at 12:12
Project ID: 16-2FMEHS-00013

Signed by: _____
Log-In Personnel Signature

		Yes	No	NA
1.	Temperature of Cooler when triaged: 3.4 C			
2.	Were custody seals on outside of cooler?...	☐	☐	☒
3.	Were custody seals on containers intact?	☐	☐	☒
	If YES: Were the seals intact, signed, and dated correctly?	☐	☐	☐
4.	Were Chain of Custody form inside cooler?	☒	☐	☐
5.	Were Chain of Custody form properly filled out (ink, signed, etc)?.	☒	☐	☐
6.	Did you sign the Chain of Custody form in the appropriate place?	☒	☐	☐
7.	Was there packing material used	☐	☒	☐
	If YES: ☐Bubblewrap ☐Peanuts ☐Vermiculite ☐Other ☐ None			
8.	Cooling process: ☒Ice ☐Icepack ☐Ice(direct contact) ☐Dry ice ☐other ☐None			
9.	Did all containers arrive in good condition (unbroken)?	☒	☐	☐
10.	Were all container labels complete (ID #, data, signed, preserv., etc	☒	☐	☐
11.	Did all container labels and tags agree with Chain of Custody form	☒	☐	☐
12.	Were correct containers used for the analysis requested	☒	☐	☐
13.	a. Were Water VOA vials received	☒	☐	☐
	b. Was there any observable head space present in any VOA vial	☐	☒	☐
14.	Was sufficient amount of sample sent in each container	☒	☐	☐
15.	Were correct preservatives used	☒	☐	☐
	If not, record _____			
16.	Was residual chlorine present	☐	☐	☒

17. Indicate the Airbill Tracking Number and Name of Courier below:
☐Fed-Ex ☐UPS ☐Velocity ☐Airborne ☐Route ☐Misc. ☒Hand delivered ☐Picked Up

18. If a Non-Conformance exists, record reason: _____

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

January 10, 2019

Grace Analytical Laboratory, Inc.
5300 McDermott Drive - Suite A
Berkeley, IL 60163
Telephone: (708) 449-9449
Fax: (708) 449-3663

Analytical Report for STAT Work Order: 19010071 Revision 0

RE: 8122802

Dear Grace Kim:

STAT Analysis received 1 sample for the referenced project on 1/4/2019 10:23:00 AM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAP standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Brandon Young
Project Manager

STAT Analysis Corporation

Date: January 10, 2019

Client: Grace Analytical Laboratory, Inc.
Project: 8122802
Work Order: 19010071 Revision 0

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19010071-001A	8122802-01			1/4/2019

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations:IEPA ELAP 100445;ORELAP IL300001;AIHA-LAP, LLC 101160;NVLAP LabCode 101202-0

Date Reported: January 10, 2019
Date Printed: January 10, 2019

ANALYTICAL RESULTS

Client: Grace Analytical Laboratory, Inc.
Work Order: 19010071 Revision 0
Project: 8122802
Lab ID: 19010071-001

Client Sample ID: 8122802-01
Collection Date:
Matrix: Aqueous

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
Herbicides	**SW8321B (SW3510C)**			Prep Date: **1/8/2019**		Analyst: **MEP**
2,4,5-TP (Silvex)	ND	0.00010		mg/L	1	1/8/2019
2,4-D	ND	0.00020		mg/L	1	1/8/2019
Dalapon	ND	0.0010		mg/L	1	1/8/2019
Dinoseb	ND	0.00030		mg/L	1	1/8/2019
Pentachlorophenol	ND	0.00020	*	mg/L	1	1/8/2019
Picloram	ND	0.00010	*	mg/L	1	1/8/2019

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

SUBCONTRACT ORDER 1901007I

Grace Analytical Lab, Inc.

8122802

SENDING LABORATORY:

Grace Analytical Lab, Inc.
5300A&B McDermott Drive
Berkeley, IL 60163
Phone: 708-449-9449
Fax: 888-467-9287
Project Manager: Adrian Moise

RECEIVING LABORATORY:

STAT Analysis Corp
2242 W. Harrison St.
Naperville, IL 60612
Phone :(312) 733-0551
Fax: (312) 733-2386

Analysis	Due Date	Laboratory ID
Sample ID: 8122802-01	**Sampled: 12/27/18 11:30**	
8151A Herb		
Containers Supplied:		001

3/01/19 UPS

Released By Date Received By Date

1Z F0R13903 9255 3755 1/4/19 10:23

Released By Date Received By Date

STAT Analysis Corporation

Sample Receipt Checklist

Client Name GRACE

Date and Time Received: 1/4/2019 10:23:00 AM

Work Order Number 19010071

Received by: CHB

Checklist completed by: _____ 1/4/19
Signature Date

Reviewed by: _____ 1/4/19
Initials Date

Matrix:

Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature Ambient °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by: _____
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted? _____

Any No response must be detailed in the comments section below.

Comments: _____

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____