ENGINEERING EVALUATION AND COST ANALYSIS (EE/CA) REPORT

Toastmaster - Macon Site

Macon, Missouri

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ACRONYMS AND ABBREVIATIONS

%	Percent
1,1-DCE	1,1-dichloroethene
AAL	Alternative site-specific action level
ARARs	Applicable or Relevant and Appropriate Requirements
ASAOC	Administrative Settlement Agreement and Order on Consent
AST	Aboveground storage tank
Arcadis	Arcadis U.S., Inc.
bgs	Below ground surface
BVCP	Brownfield Voluntary Cleanup Program
Cascade	Cascade Drilling/Technical Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cis-1,2-DCE	cis-1,2-dichloroethene
cm/s	Centimeters per second
Consent Decree	Consent Decree and Judgement
Cooper Industries	Cooper Industries, LLC
COC	Constituent of concern
COPCs	Chemicals of Potential Concern
Covenant	Environmental Notice and Restrictive Covenant
CSM	Conceptual Site Model
CVOCs	Chlorinated Volatile Organic Compounds
DPT	Direct-Push Tooling
EC	Engineering control
EC/HPT	Electrical conductivity/hydraulic profiling tool
EE/CA	Engineering Evaluation/Cost Analysis
EF	Exposure frequency
ERH	Electrical resistance heating
ERM	Environmental Resources Management
Est K	Estimated hydraulic conductivity
ET	Exposure time
EVS	Earth Volumetric Studio
Facility	Toastmaster facility
f_{oc}	Fractional organic carbon
FSP	Field Sampling Plan

ft	Feet
ft^2	Square feet
g/g	grams of organic carbon per gram
GAC	Granular activated carbon
HASP	Health and Safety Plan
IC	Institutional controls
IDW	Investigation derived waste
ISTD	In situ thermal desorption
ISTR	In situ thermal remediation
ISSS	In situ soil stabilization
MDHSS	Missouri Department of Health and Senior Services
MDL	Method detection limit
MDNR	Missouri Department of Natural Resources
mg/kg	Milligram per kilogram
mL	Milliliter
MNA	Monitoring natural attenuation
MNA Plan	Monitoring Natural Attenuation Plan
NAPL	Non-aqueous phase liquid
mm	Millimeter
MPE	Multi-Phase Extraction
NCP	National Contingency Plan
O&M	Operation and maintenance
PACE	PACE Analytical Services
PCE	Tetrachloroethene
PID	Photoionization detector
POTW	Publicly-owned treatment works
RAO	Removal Action Objective
QA/QC	Quality Assurance/Quality Control
RAO	Removal Action Objective
RCRA	Resource Conservation and Recovery Act
REDI	Roberts Environmental Drilling, Inc.
RFH	Radio Frequency Heating
RML	Removal Management Level
RSL	Regional Screening Level

SAP	Sampling and Analysis Plan
SEE	Steam Enhanced Extraction
Site	Toastmaster site
SOW	Scope of Work
Spectrum Brands	Spectrum Brands, Inc.
SRE	Streamlined Risk Evaluation
SSL	Soil Screening Level
SVE	Soil Vapor Extraction
SVOCs	Semi-Volatile Organic Compounds
Toastmaster	Toastmaster Inc.
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedures
trans-1,2-DCE	trans-1,2-dichloroethene
UCS	Unconfined Compressive Strength
µg/cm^3	Microgram per cubic centimeter
µg/m^3	Microgram per cubic meter
µg/kg	Microgram per kilogram
µg/L	Microgram per liter
USEPA	United States Environmental Protection Agency
VC	Vinyl chloride
VOCs	Volatile Organic Compounds

1 INTRODUCTION

An Engineering Evaluation/Cost Analysis (EE/CA) Investigation Report was developed for the former Toastmaster, Inc. (Toastmaster) property (Facility) located at 704 South Missouri Street in Macon, Missouri (**Figure 1**). This EE/CA follows discussions between United States Environmental Protection Agency (USEPA) Region 7, Spectrum Brands, Inc. (Spectrum Brands), on its own behalf as successor to Toastmaster, Inc., and on behalf of Cooper Industries, LLC (Cooper Industries), as successor to the McGraw-Edison Company, and summarizes the results of the Facility field investigations (EE/CA investigation). This EE/CA is designed to identify and evaluate removal action alternatives to address source zones of trichloroethene (TCE) at the Toastmaster site (Site) (**Figure 2**).

Section 300.415(b)(4)(i) of the National Contingency Plan (NCP) provides for the development of an EE/CA for non-time-critical removal actions. It is intended to: (1) satisfy environmental review requirements for removal actions, (2) satisfy administrative record requirements, and (3) provide a framework for evaluating and selecting alternative technologies. In doing so, the EE/CA identifies the objectives of the removal action and analyzes the effectiveness, implementability, and cost of various alternatives that may satisfy these objectives.

Development of an EE/CA Work Plan is defined in the Administrative Settlement Agreement and Order on Consent (ASAOC) that the USEPA approved on October 25, 2017. The EE/CA Work Plan (Arcadis 2017) outlines the technical scope of work (SOW) and rationale for the supporting investigation phase and preparation of the EE/CA report. The SOW was conducted per the Sampling and Analysis Plan (SAP) that includes the Quality Assurance Project Plan (QAPP) and Field Sampling Plan (FSP), defining the collection of site-specific data necessary to complete an EE/CA for the Site. The chemicals of potential concern (COPCs) were defined in the approved ASAOC (EE/CA Work Plan) which include: TCE, cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), 1,1-dichloroethene (1,1-DCE), and vinyl chloride (VC) in groundwater, surface and subsurface soils, and indoor air for the Site and off-site area.

The EE/CA is focused on the following evaluation:

1. The known and potential trichloroethene (TCE) source zones,
2. Definition of the Conceptual Site Model (CSM) to include the areal extent of TCE and its degradation products in soil and groundwater,
3. Assess what risk of vapor intrusion may be present in the adjacent neighborhood and/or in the former Toastmaster Facility based on completion of a Streamlined Risk Evaluation (SRE),
4. Actions that, if needed, would eliminate or minimize the risk of vapor intrusion to the adjacent neighborhood and/or in the former Toastmaster Facility,
5. Identify, analyze, and recommend performance-based removal action goals and alternatives, as appropriate, to reduce the concentrations of TCE and its degradation products in source zones that would reduce risk of vapor intrusion to the adjacent neighborhood and/or in the former Toastmaster Facility, and
6. Identification of Removal Action Objectives (RAOs), to define criteria for soil or groundwater remediation (i.e., not numerical goals) to address the risk of vapor intrusion to the adjacent neighborhood and/or in the former Toastmaster Facility.

This report summarizes the technical SOW completed during the EE/CA Investigation, and presents the SRE findings, describes the removal action alternatives evaluated, and identifies a preferred alternative for consideration. Additionally, a summary of historical data is provided in the appendices. Included are all supporting data collected that present specific sampling locations, data collection methods, analytical testing results, and data analysis results.

2 EE/CA REPORT OBJECTIVES

Investigation activities detailed in this report addressed additional data needs to complement the existing data set. Based on the historical data of soil and groundwater collected to date, five COPCs were identified by the USEPA (as Constituents of Concern [COCs]) for potential removal action with objectives that include:

- Collect data to refine the hydrogeologic characterization;
- Characterize and quantify identified TCE source zone west of the Facility building, as well as determining if potential source zones are present beneath the Facility building and at the east side of the Site;
- Refine the distribution of COPCs in soil and groundwater for source zones based on historical data obtained during previous investigations;
- Review historical work that identified the following chlorinated volatile organic compounds (CVOCs); TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-dichloroethene (1,1-DCE), and VC;
- Evaluate the vapor intrusion risks associated with TCE and its degradation products to the adjacent neighborhood and/or in the former Toastmaster Facility;
- Update of CSM that integrates the results including geologic, hydrogeologic, nature and extent of source zones, nature and extent of groundwater impacts, and potential present and future risks; and
- Determine if existing conditions are such as to present a current or future risk of vapor intrusion to the adjacent neighborhood and/or in the former Toastmaster Facility, and if so, evaluate removal action alternatives to mitigate risk, including source reduction.

The development of a more robust CSM requires a stratigraphic flux framework across the Site that captures the dynamic of mass storage and mass transport. Stratigraphic flux is completed by combining geology with soil and water quality data. The first step is to classify Site stratigraphy based on hydrofacies that reflect hydrogeologic properties reflecting aquifer permeability. There are generally three primary hydrofacies classes defined to develop a flux-based interpretation: transport zones, slow advection zones, and storage zones. These zones are then combined with the quantitative concentration data to calculate a relative mass flux for transport, slow advection, and storage zones. The CSM can be framed in the context of this calculated relative mass flux to differentiate the mass that readily moves from the slow-moving mass in slow advection zones and stationary mass in storage zones allowing for targeted remediation based on the RAOs for source zone removal actions or containment strategies.

3 BACKGROUND

3.1 Site Description

The Site is located at 704 South Missouri Street, Macon, Missouri. It is positioned in the Northwest Quarter (NW 1/4) of the Northeast Quarter (NE 1/4) of the Southeast Quarter (SE 1/4) of Section 21, Township 57 North, Range 14 West in Macon County, Missouri (**Figure 3**). Access to the Site is from South Missouri Street (U.S. Highway 63) in Macon, directly into the Facility's parking area (MDNR 1996). The Site is bounded on the east by South Missouri Street/Highway 63, with several commercial businesses across the street (Environ 2006). North of the Site are residential properties facing Kohl Street (6th Street). A city owned water tower and a commercial business are located adjacent to the northeast corner of the Site. The Facility is bordered on the west by Dameron Street, residential properties, and former Facility parking areas. Ninth Street and residential properties border the Site to the south, beyond which is a commercial property and additional residential properties (MDNR 1996).

The Site is located in a mixed industrial/commercial/residential land use area situated on an approximately 15-acre parcel that includes the Facility building(s) and parking areas (**Figure 4**). The Site consists of an approximately 175,000-square foot building, that encompasses most of the property. Formerly the Facility was used for receiving, manufacturing, storage, repair, packaging, shipping, and administrative operations. Loading bays are located on the east side and northeast corner of the building. A concrete drive from Highway 63/Missouri Street, asphalt/gravel parking areas, and shipping and receiving areas are located east of the building. The area west of the building is surfaced with asphalt and has served as an outdoor storage area. Asphalt paving also extends along a portion of the southern edge of the building along with an access drive from Ninth Street. Two previously gravel covered areas located between Dameron and Rutherford Streets west of the building were formerly used as employee parking lots. Unimproved areas of the Site are covered with grass. There are no on-site surface water bodies (Environ 2006). Utility location maps were provided by the City of Macon (**Appendix A**).

Public water supplies for the Macon area are from local reservoirs, as groundwater aquifers are of such poor quality that they have not been used to any extent for drinking water. Potential groundwater sources include the glacial till, alluvium along the East Fork of Chariton Creek or the Middle Fork of the Salt River, and the bedrock. The yield from glacial till is restricted to localized sand lenses. Alluvial sediments have not been used for water production in this area, presumably because the sediments are too fine-grained or too limited in extent for practical water supply production. The bedrock formation yields are low, and the water is generally too mineralized to be potable with the amount of mineralization increasing with depth.

3.2 Operational History

Prior to 1950, the Site was open land and used for agricultural purposes. In 1950, the main building was constructed by the City of Macon to draw industry, and the Macon Industrial Development Corporation owned the Facility. The Site building layout shown on **Figure 5** includes a summary of the operations and processes that were conducted over time. Prior to 1955, the Site was occupied by a roller skate manufacturing company (Environ 2006). McGraw-Edison operated the Facility from 1956 until 1980, during which Buildings #2 through #6 were constructed; Cooper Industries is the successor corporation to McGraw-Edison. The production operations began in Main Building #1 to manufacture household appliances (i.e., toasters, irons, and coffee urns). A maintenance, shipping, and receiving addition (Building No. 2, no date) was constructed, adjoining the north side of the Main Building. In 1965, a block/metal press room addition was constructed (Building No. 4) on the west side of the Main Building. During 1969, a metal plating addition (Building No. 6) was constructed adjoining the south side of the Main Building. A metal quality control and subassembly addition (Building No. 5), adjoined to the south side of the Press Room and Main Building, was constructed in 1973. McGraw-Edison sold assets consisting of its appliance and tool division in 1980, resulting in the formation of Toastmaster.

Magic Chef, Inc. purchased Toastmaster in October 1983, who was later purchased by Maytag Company in 1986. A metal storage building (Building No. 7) was constructed in 1986 and is connected to the south side of Building No. 5. Toastmaster was obtained by a portion of its management team in January 1987 and became a publicly-traded company in 1992 (MDNR 1996). The latest addition to the manufacturing facility was a metal building (Building No. 8), constructed in 1997 for the production of heat tubes. This building was adjoined to the west side of Building No. 4. Salton Inc. acquired Toastmaster in January 1999, changed its name to Russell-Hobbs, Inc. who operated it as a wholly-owned subsidiary through December 2000 (Environ 2006). Salton ceased manufacturing processes in December 2000, however the Facility continued operating as a distribution and service/repair center until February 2008. Spectrum Brands, Inc. acquired Russell-Hobbs in 2010. The Facility was purchased in December 2011 by Compton's LLC which assumed, by contractual indemnity, all environmental liabilities associated with the Facility. It is currently occupied by a retail business referred to as Compton's Liquidation Center that is open to the public, selling overstock merchandise including furniture, clothing, and household goods (ERM 2012). Compton's LLC is subject to a Consent Decree obligating it, in advance of remedy implementation, to demolish the Facility structure. The Consent Decree also includes Environmental Covenants to be recorded against the property that limit use of the Site, as further detailed in Section 9.

3.3 Previous Site Investigations

TCE was first identified in groundwater samples collected from soil probe borings during an initial Site investigation in September 1991. Subsequently, four additional Site investigations were conducted between 1992 and 2011. A total of 30 monitoring wells and eight temporary wells were completed with soil and groundwater samples collected and analyzed during these investigations. A vapor intrusion assessment was initiated in 2014 at both on-site and off-site locations. Subsequently, a comprehensive vapor intrusion assessment was implemented in 2016 and is ongoing.

The primary investigations of the Site include the following:

- 1991 – Soil Survey conducted by John Mathes & Associates, Inc.,
- 1992 – Phase II Environmental Site Assessment completed by Groundwater Technology (10 Wells),
- 1995 – Installation of MW-11 through MW-23 (13 wells) and groundwater monitoring completed by Environmental Projects (report unavailable for review),
- 1999 – Installation of MW-25 through MW-29 and groundwater monitoring completed by Environmental Projects (5 Wells),
- 2004 to 2007 – Groundwater Monitoring completed by Enviro-Co, LLC,

- 2009 to 2011 – Semi-annual groundwater monitoring, supplemental Site investigation activities (installation of wells MW-30, MW-31, 8 temporary wells), and surface water samples collected from three locations along the unnamed intermittent creek on the western-southwestern side of the Site were completed by Environmental Resources Management (ERM). This historical groundwater gauging and analytical data are provided in **Appendix B**,
- 2014 – Vapor intrusion investigation completed by Missouri Department of Natural Resources (MDNR),
- 2016 to 2017 – Vapor intrusion investigation performed by ERM, as consultant to Spectrum Brands under ASAOC, USEPA Docket No. CERCLA-07-2015-0006.

A summary of the monitoring well completion details and surveyed elevations are provided in **Table 1**, including six new monitoring wells as discussed in Section 5.0 of this report**.** A Site Plat (**Figure 2**) depicts the locations of the monitoring wells present at the Facility, as well as those on the adjacent properties.

3.4 Findings of Previous Investigations

Historical subsurface investigation results for soil, groundwater and vapor have identified two general source zones that include the western side of the Facility near the former TCE aboveground storage tank (AST) and degreasing area, and beneath the Facility building floor footprint based on the sub-slab soil vapor data (**Figure 5**). The Facility used TCE when manufacturing operations started in 1956 (Priddy 1996). The TCE was transported from the storage area just west of the building to the degreasing area via an aboveground pipe system. The degreasing area was located immediately to the southeast of the TCE AST, just inside the building. Toastmaster removed this bulk storage tank in August 1991 and began storing TCE in 55-gallon drums inside the building (MDNR 1996). During a May 6, 1996 Site visit by the MDNR, Toastmaster personnel indicated that the concrete foundation at the former AST area had been built with a gravel floor (MDNR 1996). This former AST structure and the degreasing area are the likely contributors to the western source zone for COPCs in soil and groundwater. The source zone for COPCs detected in groundwater from temporary and existing monitoring wells on the eastern portion of the Site during previous investigations was unknown. A recent sub-slab soil gas survey within the Site building where elevated concentrations of TCE was detected could be a potential source zone.

Toastmaster applied for entry in the MDNR's Brownfield Voluntary Cleanup Program (BVCP) in February 1996 based on the presence of TCE and its degradation products in subsurface soil and groundwater at the Site. Selected maps from the 2011 Groundwater Monitoring Report are included in this report. Interpretation of groundwater flow conditions in the shallow and deeper portions of the aquifer were developed from this dataset and are provided as **Figure 6a and Figure 6b**, respectively. The approximate areal extent of dissolved TCE in groundwater collected from monitoring wells in June 2011 are shown on **Figure 7a** (shallow) and **Figure 7b** (deep). Soil vapor investigations have been completed recently to evaluate vapor intrusion both on-site and off-site, which are detailed below.

3.4.1 July 2014 MDNR Site Inspection/Removal Assessment

On January 16, 2014, the Toastmaster Site was removed from the MDNR BVCP due to a refusal by the owner (Compton’s) to respond to MDNR requests for further Site assessment (USEPA 2015). Based on the removal from the BVCP, a Site Inspection/Removal Assessment was conducted by the MDNR in 2014 under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). MDNR focused on potential pathways of vapor intrusion, surface water and open sump within the building. The MDNR focused on the vapor intrusion exposure pathway within the Facility building which included collection of indoor air and sub-slab vapor samples at seven locations within the building. An ambient air sample was collected from the western edge of the parking lot. The MDNR also collected three surface water samples from locations along the intermittent creek located west of the Facility building. Additionally, a fluid sample was collected from an open sump located in the southern portion of the Facility building.

Volatile organic compounds (VOCs) were detected in the indoor air and sub-slab vapor samples obtained within the Site building. The Missouri Department of Health and Senior Services (MDHSS) concluded that inhalation exposure to TCE in indoor air could pose a health risk to individuals working in the building. Recommendations, by MDNR, included mitigation of vapor intrusion into the Facility building and the investigation of off-site residential properties for potential vapor migration (MDHSS 2014). The MDNR conducted a sub-slab vapor intrusion and indoor air assessment at adjacent residential and commercial properties bordering the Site in July 2014. As a result, sub-slab vapor extraction (depressurization) systems were installed by USEPA at two residential properties to mitigate the risk of COPCs in soil gas and indoor air. These two properties are located north of the Site and on the south side of Kohl Street (406 Kohl Street and 504 Kohl Street) (**Figure 4**).

Low levels of CVOCs were detected in the surface water samples. However, these surface water concentrations are not expected to pose a significant health risk or require immediate action (MDNR 2014). The impacts observed in water from the sump provided confirmation of the AST and degreasing area as possible source zone contributors.

3.4.2 Vapor Intrusion Assessment August 2016 – June 2017

Compton's and Spectrum Brands entered into ASAOC, CERCLA-07-2015-0006 with the USEPA in November 2015. After Compton 's failed to perform, Spectrum Brands conducted a sub-slab soil gas investigation (ERM 2016) within the Facility building in August 2016 (**Appendix C**). Based on the sub-slab soil gas concentrations, a recommendation was proposed to conduct a limited indoor air sampling within the Facility building in October 2016, to determine what levels of TCE were present within areas of the building occupied by Compton's employees and the public. In addition, exterior soil gas sampling activities were performed in October 2016 at six residential properties located north of Kohl Street and in front of the commercial properties in the right-of-way (ROW) at the east side of South Missouri Street (ERM 2016). This vapor intrusion sampling event was the first of the three remaining quarterly sampling events required by the November 2015 ASAOC. ERM conducted additional vapor intrusion sampling events in March 2017 and June 2017 (ERM 2017).

4 SITE-SPECIFIC GEOLOGY AND HYDROGEOLOGY

The unconsolidated deposits at the Site consist of glacial till that is Early Pleistocene (Moberly Formation) to Middle Pleistocene (McCredie Formation) in age. The three members of the McCredie Formation represent distinct glaciations, as they are separated vertically by mature weathering profiles. Nevertheless, they are lumped within a single formation, because each one cannot always be identified unambiguously in the field without any stratigraphical context (Rovey and Balco 2011). Based on review of previous boring log descriptions from historical Site investigations and the EE/CA investigation, the following units were identified: disturbed fill, glacial till consisting of primarily clay, and discontinuous silty to coarse-grained sand and gravel lenses with no indication of loess at the surface (**Appendix D**). Characterization of these three subsurface units and hydrogeology are discussed in further detail below.

4.1 Geology

Historical Site investigations have identified four units consisting of the disturbed fill, upper till, lower till, and interspersed sand lenses. The disturbed fill material generally consists of clay with some silt and sand, with a thickness of approximately 8 feet (ft) on the western portion of the Site, thinning toward the east side of the Facility building, and absent on the east side of the Site property (Environmental Projects 1999). Disturbed fill material related to the building footprint typically consists of a silty, well graded gravel. The gravelly fill is more prevalent in the western half of the building footprint, with a maximum thickness of 0.5 ft. Underlying the fill material is glacial till that is predominantly clay with some interspersed silt and very fine-grained to coarse-grained sand and gravel lenses. The interspersed sand lenses are consistent with glacial outwash deposits. The glacial till is interpreted to consist of two distinct types, upper and lower till, from previous Site investigation reports (**Figure 8**). Till deposits were encountered in all Site soil borings, except SB43 (shallow hand auger location only), to a total depth of approximately 80 ft below ground surface (bgs), the deepest investigation work to date. Results from previous investigations indicate that the upper portion of glacial till is composed primarily of clay with little fine-grained to coarse-grained sand and trace amounts of silt to approximately 45 ft bgs. The lower portion of glacial till consists primarily of silty clay with interbedded sand lenses. These sand lenses range in thickness from 0.25 inch to 1 ft, are likely oriented north/south consistent with the glacial deposition and appear to be discontinuous. The lower glacial till is underlain by Pennsylvanian aged bedrock consisting of Marmaton limestone and shale with interbedded coal seams.

During recent investigations, the distinction between upper and lower till was not apparent during field geologist soil core logging, nor did grain size sieve and hydrometer analysis of soil samples from varying depth intervals indicate any apparent distinction between upper and lower till. Additional stratigraphic observations from the EE/CA Investigation confirmed the presence of the previously noted sand lenses and identified the presence of vertical fracturing throughout the clay matrix of the glacial till at all depths. Vertical fractures were often filled with silt and/or very fine sand. The vertical fractures ranged between 1 millimeter (mm) to 10 mm in thickness, however thinner fractures were more common. Vertical fractures were also distinctly visible by their light gray color, which contrasted with the reddish brown-matrix.

4.2 Hydrogeology

The Site is located within the Salt River watershed (**Figure 9**) and just north of a major surface water drainage divide that is sometimes referred to as the “Grand Divide”. This divide lies between the Salt River drainage that flows to the Mississippi River, and the East Fork Chariton River that flows to the Missouri River. Depth to groundwater varies across the Site from just below the ground surface beneath the Facility building to 14 ft bgs in the west portion of the Site. Shallow groundwater flow direction generally follows the land surface contours and regional drainage pattern. The range of groundwater elevation in monitoring wells varies up to several feet seasonally at a given location. The historical groundwater elevations measured in Site monitoring wells appears to confirm that the Facility is situated on a localized groundwater drainage divide between two nearby drainage ditches located at the head of the tributary of the Salt River drainage system.

Groundwater flow direction has been documented as having a westward and eastward component from the Facility building. As confirmed by groundwater elevations observed in the recently installed MW-34 along the northern property boundary, a northern groundwater flow direction is also occurring beneath the Facility building that mirrors the surface topography and regional drainage pattern (**Figure 9**).

Hydraulic conductivity values measured during historical investigations through slug tests and one pumping test vary over four orders of magnitude ranging from 10^{-4} to 10^{-8} centimeters per second (cm/s) (GTI 1992 and Integral 2016). This range of values are representative of the varied geology at the Site with areas of limited sands within a mainly clayey till. Development of a more robust CSM requires a stratigraphic flux framework across the Site that captures the dynamic of mass storage and mass transport. Stratigraphic flux is completed by combining geology with soil and water quality data. The first step is to classify the Site stratigraphy based on hydrofacies that reflect hydrogeologic properties reflecting aquifer permeability. There are generally three primary hydrofacies classes defined to develop a flux-based interpretation: transport zones, slow advection zones, and storage zones. These zones are then combined with the quantitative concentration data to calculate a relative mass flux for transport, slow advection, and storage zones. The CSM can be framed in the context of this calculated relative mass flux to differentiate the mass that readily moves from the slow-moving mass in slow advection zones and stationary mass in storage zones allowing for targeted remediation based on the RAOs for source zone removal actions or containment strategies. To aid in refining the hydraulic characteristics of sediments at the Site, geotechnical data were collected and utilized to define various stratigraphic facies changes encountered into hydrofacies (i.e., storage, slow advection, and transport).

5 EE/CA INVESTIGATION

The approach used for data collection included both direct-push and auger drills, together with a mobile laboratory. This method allowed real-time decisions to be made in the field according to geologic findings and analytical results from the mobile lab. Soil boring locations were refined as necessary to ensure source zones were defined. Three phases of field work were conducted; initial two phases focused on source zone delineation in soil, and the third phase generally targeting groundwater.

5.1 Review of Available Data and Evaluation of Potential Sources

The EE/CA Work Plan that formed this EE/CA utilized available records and reports to define the data collection SOW. These documents were used to identify potential source zones that are contributing COPCs to groundwater at the Site. Available data and reports included the following:

- Previously published and publicly available investigation reports;
- Files previously obtained from the USEPA Region 7 and the MDNR;
- Well information from the MDNR well databases;
- Historical aerial photographs obtained from commercial and open-record sources;

- Location of underground utilities obtained from previous investigative reports and the City of Macon;
- Locations of historical Site features and the Facility operations obtained from previous reports;
- Additional area geology and hydrogeology information from Missouri public databases; and
- Previous investigation results for soil, groundwater, surface water, soil gas, and indoor air sampling completed by previous consultants, the MDNR, and the USEPA.

These data were utilized to develop a preliminary CSM in preparation for the field investigation. This historical data and the EE/CA field data collection was designed to develop a robust CSM for the Site.

5.2 Field Investigation and Sampling Activities

Three phases of EE/CA field investigations were conducted between October 2017 and August 2019. The EE/CA field investigations were conducted per the SOW outlined in the EE/CA Work Plan. The COPCs were defined in the approved ASAOC (EE/CA Work Plan) which include: TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and VC) in groundwater, surface and subsurface soils, and indoor air for the Site and off-site area. Data was collected and analyzed per the SAP that includes the QAPP and FSP. A Health and Safety Plan (HASP) was prepared to guide all field work and ensure activities were completed safely. All subcontractors were provided the Site HASP and safety tailgate meetings were held daily. Arcadis field personnel implemented the HASP procedures throughout the field investigation activities, and no safety incidents resulted.

5.2.1 October Through November 2017 Activities

Sampling and other intrusive data collected during the first phase of Site investigation activities in October through November 2017 was focused on source zone definition. Prior to intrusive activities, Blood Hound Underground, a private utility locator, scanned and cleared the work area for subsurface utilities and structures using ground-penetrating radar and radiofrequency location. Borehole locations were then cleared using a hand auger for visual confirmation of subsurface utility clearance. A summary of the soil borings advanced during the EE/CA investigation phases (2017, 2018, and 2019) is provided in **Table 2**. Soil borings were completed at locations SB01 through SB42 (**Figure 10**) across four major Site areas:

- 12 soil borings along the western side of the Site building;
- 10 soil borings along the eastern side of the Site building;
- 8 soil borings along the northern property boundary; and
- 12 soil borings along the interior footprint of the Site building.

Soil boring SB43 was attempted along the western side of the Site building but was not completed due to uncertainty in the location of a nearby subsurface utility line. Shallow vadose soil sampling was completed at this location using a hand auger. Soil boring logs are included in **Appendix D**.

5.2.1.1 EC/HPT Logging

An electrical conductivity (EC) and hydraulic profiling tool (HPT) was used to determine the relative soil type and relative permeability of unconsolidated deposits. Logging was completed with the direct-push tooling (DPT) advanced Waterloo$^{APS\ TM}$ system at target locations along the northern property boundary, the eastern side of the Site building, and the western side of the Site building (**Figure 11**). The HPT component of the tool measures relative permeability by injecting potable water to measure the backpressure response to injection against the formation. High EC responses can be compared to higher silt and clay soil content, while lower relative EC responses can be compared to higher sand and gravel soil content. Higher HPT backpressure responses can be compared to impermeable zones that restrict hydraulic transport, while low HPT backpressure responses can be compared to permeable zones that promote hydraulic transport. Co-located whole-core soil samples were also collected at each Waterloo$^{APS\ TM}$ location to correlate the range of EC/HPT responses to site-specific soils. Where permeable zones were identified during tool advancement, water sample collection was attempted by reversing the flow of the HPT component of the tool.

5.2.1.2 Direct-Push Soil Sampling

Prior to intrusive activities, Blood Hound, LLC, a private utility locator, scanned and cleared the work area for subsurface utilities and structures using ground-penetrating radar. Borehole locations were then cleared using a hand auger for visual confirmation of subsurface utility clearance.

Cascade Drilling/Technical Services (Cascade), under the supervision of Arcadis field geologists, utilized a track-mounted Geoprobe® 8040DT DPT rig and a track-mounted Geoprobe® 7822DT DPT rig to collect continuous whole-core soil samples via the Geoprobe® DT325 and DT35 Sampling Systems. The DT325 and DT35 Sampling Systems uses 3.25-inch and 3.5 inch-diameter probe rods, respectively, to create a cased hole while using 1.5-inch-diameter inner rods and a core barrel to collect and retrieve the soil samples. In general, boreholes were completed to target total depth or refusal, whichever occurred first.

The vadose zone was defined prior to DPT soil collection. The depth to water was determined using water levels collected from existing Site wells and was found to be approximately between 0 and 14 ft bgs throughout the area. Groundwater elevation gauging data obtained on October 31, 2017 from shallow and deep monitoring wells are shown on **Figure 12a and Figure 12b,** respectively. Shallow soil samples were collected from the vadose zone in conjunction with using the hand auger during borehole utility clearing activities to determine if COPCs were present. Soil cores were logged by Arcadis field geologists using the soil description standard operating procedure included as **Appendix E**. Visual observations and field screening results with photoionization detectors (PIDs) helped guide the selection of the sample intervals. Sample intervals were also biased to resolve concentration changes across facies changes encountered at each borehole location.

Soil samples were submitted to an on-site mobile laboratory operated by Cascade for analysis of select CVOCs using USEPA Method SW846 8260. The select list of CVOCs included tetrachloroethene (PCE), TCE, cis-1,2-DCE, trans-1,2-DCE, and VC. Cascade's mobile laboratory is a National Environmental Laboratory Accreditation Conference (NELAC) accredited laboratory that applies gas chromatography/mass spectroscopy by the same methods as a traditional fixed laboratory. Analytical reports for data generated by the on-site mobile laboratory are provided in **Appendix F** of this report. A summary of the analytical results for CVOCs in soil samples from the Cascade on-site mobile laboratory is provided in **Table 3**. The distribution and concentrations of TCE detected in soil samples are provided on **Figure 13**.

5.2.1.3 Geotechnical and Fractional Organic Carbon Soil Sampling

Samples were collected for a series of geotechnical analyses and fractional organic carbon analyses. Soil samples for sieve and hydrometer grain-size analysis (ASTM D422 and D421, respectively) were collected from a variety of encountered stratigraphic facies changes. Four Shelby tubes were collected from storage, slow advection, and transport zones identified during stratigraphic soil core logging for analysis of bulk density, specific gravity, and moisture content via ASTM Methods D7263, D854, and D2216, respectively. The sieve, hydrometer, and Shelby tube samples were submitted to Alpha-Omega Geotech in Kansas City, Kansas (**Appendix F)**. Fractional organic carbon (f_{oc}) soil samples collected from the saturated zone were submitted to PACE Analytical Services (PACE) in Lenexa, Kansas for analysis via the Walkley-Black Method (**Table 4, Appendix F**). The f_{oc} samples were collected from locations outside of the impacted areas, based on mobile laboratory analytical results, and selected to be representative of the storage, slow advection, and transport hydrofacies.

5.2.1.4 Direct-Push Groundwater and Monitoring Well Grab Sampling

Groundwater sample collection was completed utilizing two methods: Waterloo^{APS} ™ and grab groundwater. Groundwater samples were collected using the Waterloo^{APS} ™ system at three locations (SB04, SB06, and SB15), but the time to complete (i.e., low recharge) was difficult at the majority of locations where Waterloo^{APS} ™ screening was performed due to the low hydraulic conductivity of the geology (**Figure 11**). To collect a sufficient and representative volume of water samples and to aid in soil-water partitioning analysis, additional grab groundwater samples were collected during whole-core soil sampling when water-bearing intervals were encountered that generally represented the occurrence of sand lenses. Samples were collected using disposable polyethylene tubing and a foot-valve sampler to extract water from the bottom of the DPT drill stem within water-bearing zones.

In addition to grab groundwater samples from soil borings, grab groundwater samples were collected using a bailer from the screened interval midpoints of select monitoring wells to compare and contrast CVOC concentrations in monitoring wells relative to groundwater samples from proximal soil borings. All grab groundwater samples were analyzed by Cascade's on-site mobile laboratory for the same set of CVOC parameters as soil. Analytical results for the grab groundwater samples from borings and select monitoring wells are summarized in **Table 5**. The distribution and maximum TCE concentrations detected in grab groundwater samples are provided on **Figure 14**.

5.2.2 February 2018 Activities

Based on preliminary data evaluation from the October through November 2017 investigation, seven additional soil borings (SB44 through SB50) were advanced to provide additional refinement of the soil source zones and three monitoring wells were installed to augment the groundwater monitoring network. **Figure 10** provides the locations of these borings and wells and are described in detail below.

- 1 soil boring south of location SB38 to complete horizontal and vertical delineation to a total depth of 50 ft bgs;
- 1 soil boring south of location SB35 to complete horizontal and vertical delineation to a total depth of 50 ft bgs;
- 1 soil boring west of location SB15 to complete horizontal and vertical delineation to a total depth of 50 ft bgs;
- 4 soil borings advanced to 15-ft total depth at the corners of a 20-ft by 20-ft bounding box centered on location SB24 to establish a boundary of shallow TCE impacts in clay observed at this location;
- 1 shallow (MW-32) and 1 deep (MW-33) monitoring well were installed as a pair at the SB28 location;
- 1 shallow monitoring well (MW-34) was installed at the location of SB04.

A summary of the soil borings advanced during the EE/CA investigations (2017, 2018, and 2019) is provided in **Table 2**. A site-wide groundwater sampling event was conducted as part of this phase of the EE/CA investigation.

5.2.2.1 Direct-Push Soil Sampling

Prior to intrusive activities, Baker-Peterson, LLC, a private utility locator, scanned and cleared the work area for subsurface utilities and structures using ground-penetrating radar and radiofrequency location. Borehole locations were then cleared using a hand auger for visual confirmation of subsurface utility clearance. Below Ground Surface, Inc., under the supervision of Arcadis field geologists, utilized a track-mounted Geoprobe® 6620DT DPT rig to collect continuous whole-core soil samples via the Geoprobe® Macro-Core® MC5 sampling system. Prior to DPT soil collection, the depth to water was determined using water levels collected from existing Site wells. Groundwater elevation gauging data obtained in February 2018 from shallow and deep monitoring wells are shown on **Figure 15a** and **Figure 15aa**, respectively. The MC5 Sampling System uses 2.25-inch-diameter probe rods to create a cased hole while using 1.25-inch-diameter inner rods and a closed piston point at the bottom of the tool string to advance to the top of the target sampling interval. The inner rods are then removed, and the 2.25-inch probe rods are advanced to the bottom of the target interval. Soil was collected and retained within a sampling liner in the lowermost probe rod and retrieved for analysis. After each sample interval collection, the entire tool string is removed, a new sampling liner is reset, and the tool string is re-advanced to collect a subsequent soil sample interval until either target total depth or drilling refusal, whichever occurred first.

Soil borings SB-44 through SB-50 were advanced to complete the soil source zone investigation. Soil cores were logged by Arcadis field geologists (**Appendix D**) using the soil description standard operating procedure included as **Appendix E**. Visual observations and field screening results with PIDs helped guide the selection of the sample intervals. Sample intervals were also biased to resolve concentration changes across facies changes encountered at each borehole location. Soil samples were submitted to PACE in Lenexa, Kansas for analysis of select CVOCs using USEPA Method SW846 8260, including TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and 1,1-DCE. Analytical reports for data generated by the Cascade on-site mobile laboratory and PACE Analytical Services are provided in **Appendix F** of this report. A summary of the analytical results for CVOCs in soil samples from the PACE fixed-base laboratory are provided in **Table 6**. The distribution and concentrations of TCE detected in soil samples are provided on **Figure 13**.

5.2.2.2 Well Installation and Groundwater Sampling

During February 2018, three monitoring wells were installed to augment the existing groundwater monitoring network based on the results of the soil boring work completed during the October/November 2017 mobilization. Following the installation of the wells, a comprehensive groundwater sampling event was completed as part of the approved scope in the EE/CA Work Plan. The three monitoring wells were designed to intersect sand lenses observed in soil borings that may represent the transport mechanisms from the source zones. Shallow monitoring well MW-32 and deep monitoring well MW-33 (**Figure 2**) were installed as a pair at the SB28 location (**Figure 10**). Shallow monitoring well MW-34 was installed at the location of SB04 targeting the presence of a sand lens and impacted groundwater at a depth between approximately 20 and 25 ft bgs.

Well MW-34 was installed at the northeast corner of the Site and fulfilled two objectives of the EE/CA investigation. This well location provided a critical groundwater elevation point that demonstrates the relatively low hydraulic gradient and northward (shallow) groundwater flow direction beneath the Site building (**Figure 15a**). Secondly, this well provides a sampling point at the SB04 boring location to monitor TCE impacts in shallow groundwater near the property boundary (**Figure 14**). Paired wells MW-32 (shallow) and MW-33 (deep) were installed to monitor the TCE impacted groundwater detected at SB28.

Site-wide groundwater sampling of the newly installed and all existing monitoring wells was initiated in conjunction with the second phase of EE/CA investigation in February 2018. Groundwater samples were collected by means of low-flow sampling per the EE/CA Work Plan. The samples were transported by Arcadis personnel and submitted to PACE in Lenexa, Kansas for analysis of select CVOCs using USEPA Method SW846 8260, including TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and 1,1-DCE. Laboratory reports are provided in **Appendix F**. A summary of the analytical results for CVOCs in groundwater samples from monitoring wells are provided in **Table 7**. Values for the field parameters measured during the low-flow sampling procedure are provided in **Table 8**. Additional groundwater samples from monitoring wells MW-4, MW-5, MW-8, and MW-9 were submitted to PACE in Lenexa, Kansas for geochemical analysis of chloride, nitrate/nitrite, sulfate, methane, alkalinity, hardness, total dissolved and total suspended solids, total and dissolved metals, and total organic carbon. Analytical results of groundwater samples from these selected monitoring wells are provided in **Table 9**. Tables of historical results for groundwater elevations and CVOCs detected in groundwater from monitoring wells (2010 through 2019) are provided in **Appendix G.**

5.2.3 July - August 2019 Activities

Based on USEPA comments provided in December 2018, a direct-push soil boring program and installation of three monitoring wells were completed to augment the groundwater monitoring network in July 2019. The soil borings and wells were installed on adjacent residential properties located north of the facility. **Figure 10** provides locations of the soil borings that were advanced for the purpose of sample collection at the monitoring well locations that are described in detail below.

- Shallow monitoring well (MW-35) was installed at 504 Kohl Street. The location is approximately 100 ft north-northwest of MW-34;
- Shallow monitoring well (MW-36) was installed at 406 Kohl Street. The location is approximately 150 ft north/northeast of the northwest corner of the facility building;

- Shallow monitoring well (MW-37) was installed at 404 Kohl Street. The location is approximately 150 ft north/northwest of the northwest corner of the facility building.

5.2.3.1 AQR Color-Tec Sample Screening

Both soil and groundwater samples were screening in the field using AQR Color-Tec analyses (AQR Color-Tec 2013). This technique was needed to obtain rapid, real-time, results of TCE such that field decisions could be made as to which soil samples to submit to the fix-based laboratory, and whether additional monitor wells were needed farther north of those proposed.

Vadose zone soil samples from intervals of 0 to 2 ft and greater than 2 ft bgs were screened in the field. Visual observations and field screening results with PIDs helped guide the selection of the soil sample intervals for additional field analysis. Soil intervals from each boring location with the highest PID readings were selected for AQR Color-Tec analysis (AQR Color-Tec 2013). If no PID readings were observed, soil samples were collected from zones of higher transmissivity if observed. A minimum of three soil samples were collected per boring, including one sample near the bottom of the each boring. The AQR Color-Tec system is a rapid, reliable, field screening test-kit method for analysis of CVOCs in water and soil. The field-based analytical method combines sample purging with colorimetric gas detector tubes to detect total chlorinated volatile organic halocarbons compounds at concentrations as low as 3 micrograms per liter (µg/L) in water, or 3 µg/kg in soil. Prior to collecting sample media, the test station was prepared to receive samples as follows. Since the Color-Tec system uses ambient air to purge samples, a carbon filter tube was used to scrub the incoming ambient air. For most situations, one carbon filter per 10 samples is more than sufficient. The carbon filter is attached to purge needle and set aside. For water samples, two 40 milliliter (mL) VOA vials were filled to approximately 75 percent capacity and the lids are tightly secured. For soil samples, two 40 mL VOA vials were filled with approximately an inch and a half of soil. Immediately after adding the soil, laboratory grade deionized water was added to each VOA until they were approximately 70 percent full and the lids were tightly secured. The soil mixture was then vigorously shaken to break up the soil and transfer the chlorinated compounds to the water.

Once the sample was prepared, sample vials and the Gastec colorimetric tubes used with the pump were placed in a 104 degrees Fahrenheit water bath for up to 2 minutes. Once the sample and detector tube were warmed, it was transferred to the pump stand. A Low-level detection tube was inserted into the pump inlet and a new extraction needle was slid onto the opposite end of the detection tube. The extraction needle is then inserted through the septa of the first VOA and into the headspace of the vial. Next, the prepared carbon tube/purge needle assembly is inserted through the septa and pushed to the bottom of the vial. The pump is then drawn to the 50 mL position and allowed to purge for 30 seconds. At the end of the purge, the detector tube is examined for a color (purple) change. If no color change is visible, or if the reading is less than 1.5 on the detector tube, the pump is drawn to the 100 mL position and purging continues. If no color change is visible, the process is repeated on the 2nd VOA vial using the same detector tube, but this time pulling the pump the full 100 mL. After the full 200 mL of purge have been pulled through the detector tube, it is checked for visual indicators of color change and the results are recorded. If high concentrations exceed the low-level detector tube on the first 50 mL purge, a medium or high-level detector tube is placed in the pump and the second VOA vial is used to obtain an accurate reading.

5.2.3.2 Direct-Push Soil Sampling

Prior to intrusive activities, Roberts Environmental Drilling, Inc. (REDI), a private utility locator, scanned and cleared the work area for subsurface utilities and structures using ground-penetrating radar and radiofrequency location. Borehole locations were then cleared using a hand auger for visual confirmation of subsurface utility clearance. Under the supervision of an Arcadis field geologist, REDI utilized a track-mounted Geoprobe® 7820DT DPT rig to collect continuous whole-core soil samples via the Geoprobe® Macro-Core® MC5 sampling system. Prior to DPT soil collection, the depth to water was determined using water levels collected from selected Site wells. Groundwater elevation gauging data obtained in July 2019 from shallow and deep monitoring wells are shown on **Figure 15b** and **Figure 15bb**, respectively.

The MC5 Sampling System uses 2.25-inch-diameter probe rods to create a cased hole while using 1.25-inch-diameter inner rods and a closed piston point at the bottom of the tool string to advance to the top of the target sampling interval. The inner rods are then removed, and the 2.25-inch probe rods are advanced to the bottom of the target interval. Soil was collected and retained within a sampling liner in the lowermost probe rod and retrieved for analysis. After each sample interval collection, the entire tool string is removed, a new sampling liner is reset, and the tool string was re-advanced to collect a subsequent soil sample interval until either the targeted total depth or drilling refusal was reached, whichever occurred first.

Soil borings for monitoring wells MW-35, MW-36, and MW-37 were advanced to a total depth sufficient to complete the groundwater investigation (approximately 26 ft). Soil cores were logged by an Arcadis field geologist (**Appendix D**) using the soil description standard operating procedure included as **Appendix E**.

Vadose zone soil samples from intervals of 0 to 2 ft and greater than 2 ft bgs were submitted to PACE in Lenexa, Kansas for analysis of select CVOCs using USEPA Method SW846 8260, including TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and 1,1-DCE. Analytical reports for data generated by PACE are provided in **Appendix F** of this report. A summary of the analytical results for CVOCs in soil samples from the PACE fixed-base laboratory are provided in **Table 6**. The distribution and concentrations of TCE detected in soil samples are provided on **Figure 13**.

5.2.3.3 Well Installation and Groundwater Sampling

During July 2019, three monitoring wells were installed to augment the existing groundwater monitoring network based. These new wells (MW-35, MW-36, and MW-37) were installed on properties where vapor mitigation systems are present to evaluate geologic and groundwater conditions just north of the site. A summary of the completed well construction details is provided in **Table 1**. The groundwater delineation was prompted by comments provided by USEPA in December 2018 requesting further groundwater delineation north of the Facility based on the observed source area impacts near SB24 and a northern groundwater flow direction.. As part of the groundwater delineation effort, existing shallow on-site monitoring wells MW-32, MW-33, and MW-34 were gauged and sampled on July 10, 2019, following the installation of the nearby monitoring wells on the residential properties. The new wells were not able to be sampled due to the lack of groundwater recovery. These new wells were subsequently further developed in attempt to reduce any potential skin effect of the predominantly clay soil that was encountered in each of the well borings. None of the new well borings encountered a sand interval, suggesting that the sand interval present at MW-34 is discontinuous.

Groundwater sampling and analyses was prolonged due to the slow rate of groundwater recovery following completion of the new wells. Subsequently, a static groundwater level was measured and a groundwater sample was collected from well MW-37 (404 Kohl Street) on July 24, 2019. It was collected by means of low-flow sampling methodology per the EE/CA Work Plan. Groundwater elevations measured in selected wells on July 24 are shown on **Figure 15c**. Groundwater recovery at wells MW-35 (504 Kohl Street) and MW-36 (406 Kohl Street) was sufficient for collecting a sample for analyses on August 22, 2019. Measured groundwater elevations prior to sampling are provided in **Appendix G**. The wells were gauged again on October 11, 2019 at which time static groundwater was measured at wells MW-35 and MW-37, approximately 5 ft bgs. However, the measured groundwater at well MW-36 was approximately 20 ft bgs, still not at static conditions (**Figure 15d**). The groundwater elevations measured at the new well locations further demonstrates the low hydraulic conductivity conditions of the unconsolidated till deposits and confirmed the northward groundwater flow direction.

Groundwater samples that were collected from the new wells were transported by Arcadis personnel and submitted to PACE in Lenexa, Kansas for analysis of select CVOCs using USEPA Method SW846 8260, including TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and 1,1-DCE. Laboratory reports are provided in **Appendix F**. A summary of the analytical results for CVOCs in groundwater samples from these new monitoring wells are provided in **Table 7**. The approximate areal extent of dissolved TCE in groundwater collected from monitoring wells are shown on **Figure 16a** (shallow wells), which utilizes the analytical results obtained both in February 2018 and August 2019. Dissolved TCE in groundwater results collected from deep monitoring wells in February 2018 are shown on **Figure 16b**. Values for the field parameters measured during the low-flow sampling procedure are provided in **Table 8**. Tables with historical results for groundwater elevations and CVOCs detected in groundwater from monitoring wells (2010 through 2019) are provided in **Appendix G**.

5.3 Analytical Quality Assurance/Quality Control Protocol

Quality assurance/quality control (QA/QC) for both analytical soil and groundwater samples were collected and analyzed as follows:

- 5% duplicates, or one per 20 primary samples;
- 5% equipment rinsate samples, or one per 20 primary samples;
- 5% field blanks, or one per 20 primary samples; and
- 5% matrix spike/matrix spike duplicates, or one per 20 primary samples.

5.4 Survey

At the conclusion of each phase of investigation activities (2017, 2018, and 2019), the coordinates and elevation of each direct-push probe boring location and new monitoring well were obtained by Shafer, Kline & Warren in 2017 and 2018, and McClure Engineering Co. in 2019. Both companies are Missouri registered land surveyors based in Macon, Missouri and Columbia, Missouri, respectively. Borings and wells were surveyed to 0.1 ft horizontal accuracy, and wells were additionally surveyed vertically to a 0.01 ft accuracy. Data for the surveyed boring and well locations are provided in **Appendix H**.

6 RESULTS

6.1 Permeability Mapping

To aid in developing a stratigraphic flux framework for storage, slow advection, and transport zones, estimated hydraulic conductivities were calculated utilizing the sieve and hydrometer data that were processed to validate and calibrate the hydrostratigraphic model developed for the Site. To facilitate an efficient method of assigning estimated hydraulic conductivity (Est K) values to hydrofacies (i.e., storage, slow advection, and transport), sieve data were processed using the Excel-based program HydroGeoSieveXL (Devlin 2015). The HydroGeoSieveXL program is an Excel-based tool that is accompanied by a peer reviewed paper. The paper reviews previously developed peer reviewed equations with an automatic solver for utilization with sieve data. Table 1 within the paper provides the applicable conditions for the equations that are recommended to meet for the solution to have a valid result in accordance with the original researcher that developed the equation. This program was used for ease of use and provides an estimated range of hydraulic conductivity based solely on grain size and does not indicate an in situ hydraulic conductivity. Grain-size analysis for calculation of hydraulic conductivity in glacial till is of limited utility because it doesn't take into consideration the density of the formation, the degree of compaction, or the presence of fractures that may exist. The program calculates Est K values from grain-size data using 15 different calculations, as follows:

- Hazen simplified (Freeze and Cherry 1979)
- Hazen (1892)
- Slichter (1898)
- Terzaghi (1925)
- Beyer (1964)
- Sauerbrei (1932) (Vukovic and Soro 1992)
- Krüger (1919)
- Kozeny (1953)
- Zunker (1930)
- Zamarin (1928)
- US Bureau of Reclamation (Bialas 1966)
- Barr (2001)
- Alyamani and Sen (1993)
- Chapuis (2004)
- Krumbein and Monk (1942).

When executed, HydroGeoSieveXL produces a grain-size distribution curve, a list of various input parameters, a histogram of grain-size distribution in terms of conventional grain-size classes (e.g., clay, sand, gravel), and a summary of calculated K for each empirical method. Constraints put on by the equation developer allow for the use of these empirical methods under all conditions. Not all results are relevant for a given soil type, as the parameters for certain calculations may not meet the requirements to successfully complete a specific calculation and does not represent a field test of in situ hydraulic conductivity. Of the 15 equations used by HydroGeoSieveXL program, the following two equations were not used, as the grain-size sieve analysis did not meet the criteria necessary to complete the calculations for any of the samples:

- Hazen simplified (Freeze and Cherry 1979)
- Chapuis (2004).

The remaining 13 equations were used at least once during the HydroGeoSieveXL evaluation. To facilitate correlation of the Est K values to stratigraphic logging descriptions, sieve samples were categorized based on the dominant observed soil grain size, with consideration for secondary soil grain size observations. A summary of the various soil types evaluated for the sieve data analysis is presented below:

- CH – high plasticity clay;
- CL – low plasticity clay;
- ML – low dilatancy silt;
- SP – poorly graded sand; and
- SW – well graded sand.

Where secondary grain sizes were observed, combinations of individual soil texture codes were used to represent a primary observed grain-size and a secondary observed grain-size (e.g., SWML – well graded sand and silt). The HydroGeoSieveXL Est K results for each sample are summarized in a table included in **Appendix I**. Field observations are favored for categorizing hydrofacies as they are closer to the observed texture to in situ, whereas lab soil textures and sieve analyses are disturbed by the nature of the analysis. In addition, the number of geotechnical lab samples are limited in comparison to the overall soil logging that was completed at the Site by the geologist. The K values in **Appendix I** do not change, because the sieve data and HydrogeoSieveXL program are run independently of the field descriptions.

Based on review of the results generated, in conjunction with the geotechnical lab results for sieve analysis, an additional equation was eliminated for some of the results calculated from further evaluation. The equation eliminated from consideration for a number of results was the Alyamani and Sen method that is applicable to well sorted soils (Rosas et al. 2014) and produced bias high results for the proportion of samples consisting of poorly sorted sediments. Remaining results were averaged for each sample then grouped by dominant grain-size into their applicable hydrofacies category, as follows:

- Storage – Clay-dominant soil;
- Slow Advection – Silt-dominant soil; and
- Transport – Sand-dominant soil.

The average Est K result for each sample grouped by hydrofacies types were then averaged to allow for a representative single Est K value for each hydrofacies. These single Est K values were used to convert facies into hydrofacies and complete a relative flux analysis that allows for understanding of where mass is stored in the system as source zones and where potential transport may occur. The percentages for size analysis and Est K results are presented in **Table 10** and summarized below:

Hydrofacies	Empirical Est Range of K (cm/s)		Geometric Mean (cm/s)
Storage (n=15)	2.21E-06	1.42E-08	4.00E-08
Slow Advection (n=4)	1.00E-05	1.55E-08	8.69E-08
Transport (n=12)	3.85E-01	4.58E-07	3.37E-03

Utilizing the equations are a way of developing a CSM in an unfiltered manner that does not apply a bias during the analysis, however this does not preclude professional judgment in the review of the data. The equation that provided a value of 4.58E-07 cm/s for "Transport" in the table above was the Barr equation, for sample SB24_26-27. Additional HydroGeoSieveXL results for this sample ranged up to 2.96E-04 cm/s. Further review of the sieve analysis presented in **Table 10** shows a higher percentage of fines (25% total silt and clay) in comparison with the other samples designated as transport hydrofacies. This percentage of fines shifts the overall distribution of the sieve analysis, and thus the result of the Barr equation is a lower hydraulic conductivity. The conclusion drawn from this observation is that the individual sample is not suited for estimating the parameter from the Barr equation and that stratigraphy plays an important role in variation of K values that is not always captured at the scale of observation and analysis, or in a disturbed sample.

The sieve analysis results in **Appendix F** that indicate the presence of silt that are otherwise not apparent in **Table 10** of the EE/CA are incorporated in the Est K value calculations of the HydroGeoSieveXL program; however, the program bins the grain-size percentages differently in order to prepare the data for Est K determination. **Table 10** represents the data output from HydroGeoSieveXL as the program organizes it. Additional discussion on the utility of the Est-K data is presented in Section 6.9.

6.2 Vadose Zone Soil Samples

6.2.1 October 2017 – February 2018 Investigation

A total of 66 soil samples for CVOC analysis were collected from 49 soil boring locations within the vadose zone during the investigation. Positive detections of TCE in the vadose zone above the method detection limit (MDL) were observed at 18 soil boring locations. Other CVOCs (PCE, cis-1,2-DCE, trans-1,2-DCE, and VC) were detected above the MDL at three soil boring locations. The vadose zone soil analytical results for CVOCs are summarized in **Table 11**, with the distribution and maximum values for TCE in vadose zone soil provided on **Figure 17**.

Of the 16 locations advanced along the western side of the Site, the highest TCE detection in the vadose zone was measured in a sample from soil boring SB48 (241 micrograms per kilogram [µg/kg]) collected between ground surface and 2 ft bgs. Soil boring SB48 was advanced approximately 150 ft southwest of the former TCE AST location and approximately 70 ft west of the former degreasing area.

Of the 10 locations advanced along the eastern side of the Site, the highest TCE detection in the vadose zone was measured in a sample from soil boring SB28 (151 µg/kg) collected between 1 and 2 ft bgs. Soil boring SB28 was advanced approximately 150 ft southeast of the highest sub-slab soil gas TCE detection

(1,600,000 micrograms per cubic meter [µg/cm3] at location SS-032) observed during the August 2016 ERM sub-slab soil gas investigation inside the Site building footprint.

No CVOCs were detected in vadose zone soil samples from the eight locations advanced along the northern property boundary. Of the 15 locations advanced within the Site building interior, the highest TCE detection in the vadose zone was measured in a sample from soil boring SB46 (16,700 µg/kg) collected between 0.5 and 2 ft bgs. Soil boring SB46 was advanced adjacent to the highest sub-slab soil gas TCE detection (1,600,000 µg/cm^3 at location SS-032) observed during the August 2016 ERM sub-slab soil gas investigation inside the Site building footprint.

6.2.2 July 2019 Investigation

Field results using the AQR Color-Tec system were recorded in field notes and on boring logs using the recommended AQR recording method. Results were recorded by first indicating the visually observed tube color change value, then the tube type (low level – LL, Medium – M), and finally the purge volume used. A field reading of 2.0 on the detector tube with a low-level tube and a 200 mL purge would be recorded as 2.0/LL/200. To estimate sample concentrations based on the detector tubes relative response reading, field samples were compared to the relative response table provided by AQR Color-tec. The table below summarizes the field samples collected and evaluated using the AQR Color-Tec test kit.

Sample #	Location	Media	Depth	Date Collected	Time Collected	Color-Tec Response Reading	Equivalent Concentration (ug/L or mg/kg)
1	MW-35	Soil	14.0-14.5	7/9/2019	10:05	0.0/LL/200	0.0
2	MW-35	Soil	23.5-24.0	7/9/2019	10:15	0.0/LL/200	0.0
3	MW-35	Soil	28.0-28.5	7/9/2019	10:25	0.0/LL/200	0.0
4	MW-37	Soil	15.5-16.0	7/9/2019	15:15	0.0/LL/200	0.0
5	MW-37	Soil	19.0-19.5	7/9/2019	15:25	0.0/LL/200	0.0
6	MW-37	Soil	23.0-23.5	7/9/2019	15:35	0.0/LL/200	0.0
7	MW-37	Soil	26.6-27.3	7/9/2019	15:45	0.0/LL/200	0.0
8	MW-36	Soil	19.0-19.5	7/10/2019	13:40	0.0/LL/200	0.0
9	MW-36	Soil	23.0-23.5	7/10/2019	13:50	0.0/LL/200	0.0
10	MW-36	Soil	29.0-29.5	7/10/2019	14:02	0.0/LL/200	0.0
11	MW-35	Water	N/A	7/10/2019	17:26	0.0/LL/200	0.0
12	MW-37	Water	N/A	7/11/2019	7:55	0.0/LL/200	0.0
13	MW-36	Water	N/A	7/11/2019	8:02	0.0/LL/200	0.0

A summary of the analytical results for CVOCs in vadose zone soil samples are provided in **Table 6**. The COPCs TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and 1,1-DCE were not detected above the laboratory reporting limit. The distribution and concentrations of TCE detected in soil samples are provided on **Figure 13**. Analytical reports for these data are provided in **Appendix F** of this report.

6.3 Saturated Soil Samples

A total of 561 soil samples for CVOC analysis were collected from 48 soil boring locations within the saturated zone during the investigation. Positive detections of TCE in the saturated zone above the MDL were observed at 33 soil boring locations. Other CVOCs (PCE, cis-1,2-DCE, trans-1,2-DCE, and VC) were detected above the MDL at 22 soil boring locations. The saturated zone soil analytical results for CVOCs are summarized in **Table 12**, with the distribution and concentrations of TCE detected in saturated zone soil provided on **Figure 13**.

- Highest TCE detection in the saturated zone was measured in a sample from soil boring SB11 (1,230,000 µg/kg) collected at 25 ft bgs along the western side of the Site.
- Eastern side of the Site, the highest TCE detection in the saturated zone was measured in a sample from soil boring SB28 (24,400 µg/kg) collected at 23.5 ft bgs.
- Along the northern Site property boundary, the highest TCE detection in the saturated zone was measured in a sample from soil boring SB04 (13.9 µg/kg) collected at 24.5 ft bgs.
- The highest TCE detection in the saturated zone within the Site building footprint was measured in a sample from soil boring SB20 (139,000 µg/kg) collected at 34.3 ft bgs.
- The soil samples from soil borings SB24 and SB44 through SB47 had elevated TCE detection results (1,000 µg/kg to 100,000 µg/kg range). A sub-slab soil gas sample result at adjacent location SS-032 (1,600,000 µg/cm^3 of TCE) was observed during the August 2016 ERM sub-slab soil gas investigation.

Two source zones identified in the saturated zones were: 1) in the vicinity of the former operations that included a TCE AST, degreaser area and wastewater treatment pit, and 2) under the slab of Building 2 with no known activities related to TCE use in the vicinity (**Figure 5**). Overall, the western source zone consists of a lateral and vertical extent of approximately 128 ft by 128 ft and 35 ft depth based on detected TCE concentrations in soil above 110 milligrams per kilogram (mg/kg). The source zone identified under the slab of the building consists of a lateral and vertical extent of approximately 30 ft by 30 ft and 6 ft depth. These two source zones were identified based on concentration in soil relative to the assumed aqueous solubility of TCE (1,100 milligrams per liter) as an indication of the potential of non-aqueous phase liquid for TCE and residual concentrations. East of these two source zones is one location with a detected TCE concentration of 24,400 µg/kg (at SB28) collected at 23.5 ft bgs, just below a transition of sand lenses and predominantly clay glacial till.

6.4 Direct-Push Groundwater Results

Grab groundwater samples were collected both via the Waterloo$^{APS\ TM}$ system and during whole-core soil sampling when sand lenses and/or water-bearing intervals were encountered, as detailed in **Section 5.2.1.4** above. A total of 26 grab groundwater samples were collected from soil boring locations at depths ranging between 6 ft bgs and 66.9 ft bgs. All grab groundwater samples from soil boring locations were collected at or adjacent to co-located analytical soil sample locations. The grab groundwater analytical results are summarized in **Table 6**, with the distribution and maximum detected concentrations for TCE in grab groundwater provided on **Figure 14**. Generally, where CVOCs were detected in co-located soil samples, CVOCs were detected up to three orders of magnitude greater for grab groundwater samples, as shown in **Table 13**. A review of **Table 13** results for the soil concentrations greater than groundwater concentrations reveal two samples for soil that are greater than the compared collocated sample: SB28A-41.0 and SB28A-46.8 were compared to MW-33 monitoring well. Given the difference in screen length relative to discrete soil samples, this observation is not unusual. The other soil samples that were greater than the co-located groundwater samples were non-detect for the samples.

The highest TCE detection in the grab groundwater on the western side of the Site was measured in a sample from location SB15 (109,000 µg/L) collected at 20 ft bgs. Soil boring SB15 was initially advanced using Waterloo$^{APS\ TM}$ tooling approximately 130 ft west-southwest of the former TCE AST location and was collected using a peristaltic pump from the open borehole, after Waterloo$^{APS\ TM}$ tooling was removed and the borehole had partially collapsed to 20 ft bgs. Location SB15 was later sampled using whole-core soil sampling in an adjacent borehole 10 ft south designated SB15A. Grab groundwater samples in this stepover location were collected during soil coring activities at 46.5 ft bgs (TCE detected at 19,900 µg/L) and 48 ft bgs (TCE detected at 1,100 µg/L), both from sand intervals; no water-bearing zone was identified at 20 ft bgs, where groundwater was sampled during the initial advancement of SB15 via Waterloo$^{APS\ TM}$ tooling. Co-located soil sample results for SB15 are as follows:

Grab Groundwater Sample Depth	TCE Result (µg/L)	Soil Sample Depth	TCE Result (µg/kg)
20	109,000	19.5	18,600 J
46.5	19,900	46.4	1,580
48	1,100	48.5	714

Notes:
J – compound was detected below the laboratory quantitation limit; indicated value is an estimated result.

The highest TCE detection in the grab groundwater on the eastern side of the Site was measured in a sample from location SB28 (93,800 µg/L) collected at 20 ft bgs from a sand interval. Soil boring SB28 was advanced approximately 150 ft southeast of the highest sub-slab soil gas TCE detection (1,600,000 micrograms per cubic meter (µg/m^3) at location SS-032) observed during the August 2016 ERM sub-slab soil gas investigation inside the Site building footprint. Co-located soil sample results for SB28 are as follows:

Grab Groundwater Sample Depth	TCE Result (µg/L)	Soil Sample Depth	TCE Result (µg/kg)
20	93,800	19.5	12,300

The highest TCE detection in the grab groundwater along the northern property boundary was measured in a sample from soil boring SB04 (717 µg/L) collected at 24 ft bgs from a sand interval. Soil boring SB04 was advanced approximately 65 ft south and upgradient of 504 Kohl Street, a private residence where ERM vapor intrusion sampling in June 2017 identified TCE above the action level in sub-slab soil gas. Co-located soil sample results for SB04 are as follows:

Grab Groundwater Sample Depth	TCE Result (µg/L)	Soil Sample Depth	TCE Result (µg/kg)
24	717	24	Non-detect
25	690	25	13.2 J
27.2	690	30	Non-detect

Notes:
J – compound was detected below the laboratory quantitation limit; indicated value is an estimated result.

The highest TCE detection in the grab groundwater beneath the Site building was measured in a sample from soil boring SB38 (33,400 µg/L) collected at 20 ft bgs. Soil boring SB38 was advanced approximately 35 ft west of the former degreasing area in the Site building and approximately 110 ft south-southeast of the former TCE AST location. Co-located soil sample results for SB38 are as follows:

Grab Groundwater Sample Depth	TCE Result (µg/L)	Soil Sample Depth	TCE Result (µg/kg)
20	33,400	19.9	2,270

6.5 Monitoring Well Sampling Results

Groundwater samples for CVOC analysis were collected from 34 monitoring wells located both on-site and off-site in February 2018. Positive detections of TCE (0.95 to 106,000 µg/L) above the MDL were observed at 18 monitoring well locations. Other VOCs (1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, and VC) were detected above the MDL at 19 monitoring well locations. TCE concentrations across the Site in shallow monitoring wells tended to be highest in the western portion of the Site, specifically at MW-2 (94,900 µg/L) and MW-5 (23,400 µg/L). In the eastern portion of the Site, the highest TCE concentration was detected at MW-32 (74,000 µg/L). In deep monitoring wells, TCE concentrations were also higher on the western area of the Site with a maximum TCE (106,000 µg/L) detection overall. Deep monitoring wells on the eastern portion of the Site have overall lower TCE (64.8 µg/L) detections when compared to both the western deep monitoring wells, and the shallow monitoring wells. In general, site-wide TCE concentration magnitudes in monitoring well sampling results are comparable to TCE concentration magnitudes from soil sampling results.

Groundwater samples for CVOC analysis were collected from three monitoring wells installed on adjacent residential properties in July 2019. These monitoring wells (MW-35, MW-36, and MW-37) were installed for the purpose of delineating impacted groundwater north of the Site.

Laboratory analysis of select CVOCs in groundwater include: TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and 1,1-DCE. The only CVOC detected was TCE in monitoring wells MW-36 (1.1 µg/L) and MW-37 (1.6 µg/L), both below the laboratory reporting limit. A summary of the analytical results for CVOCs in groundwater samples from the monitoring wells are provided in **Table 7**. The approximate areal extent of dissolved TCE in groundwater collected from monitoring wells are shown on **Figure 16a** (shallow wells) with analytical results combined from the February 2018 and August 2019 sampling events. Values for the field parameters measured during the low-flow sampling procedure are provided in **Table 8**. Laboratory reports are provided in **Appendix F**. Tables with historical results for groundwater elevations and CVOCs detected in groundwater from monitoring wells (2010 through 2019) are provided in **Appendix G**.

6.6 Equivalent Groundwater Evaluation and Results

Whole-core soil samples collected from the saturated zone were converted to an equivalent groundwater concentration to enable comparison with the existing monitoring well data and evaluation of the dissolved phase CVOC plume. To convert TCE soil concentrations into equivalent groundwater concentrations, the following site-specific parameters were collected at the Site:

- f_{oc}
- Dry bulk density
- Porosity.

The soil-water partition equation for organic compounds, as outlined by the USEPA Soil Screening Guidance (USEPA 1996) is as follows:

$$C_t = C_w * [(K_{oc} * f_{oc}) + ((\Theta_w + \Theta_a * H')/\rho_b)]$$

For saturated soils ($\Theta_a = 0$)

$$C_t = C_w * [(K_{oc} * f_{oc}) + (\Theta_w /\rho_b)]$$

The parameters, default values, and approximate ranges for soil physical properties are as follows:

Parameter	Definition	Default Value	Site-Specific Ranges for Soil	Source
C_t	Bulk Soil Concentration	Raw Analytical Result	--	--
C_w	Groundwater Concentration	Calculated Equivalent Groundwater Concentration	--	--
K_{oc}	Soil Organic Carbon-Water Partition Coefficient	Chemical Specific	--	USEPA 2020a
f_{oc}	Fraction of Organic Carbon	0.002 g/g (0.2%)	<0.0002 – 0.002	Site-specific sampling data
Θ_w	Water Filled Soil Porosity	0.3 L/L (30%)	29% – 36%	USEPA 1996; Fetter 2001
ρ_b	Dry Bulk Density	1.5 (kg/L)	1.62 – 1.85	Site-specific sampling data; Wiedemeier, et. al. 1999
Θ_a	Air Filled Soil Porosity	0.13 L/L (13%)	0%	USEPA 1996; Fetter 2001
H'	Dimensionless Henry's Law Constant	Chemical specific	--	USEPA 2020a

The method used for f_{oc} analysis was the Walkley-Black Method. The f_{oc} samples were collected from seven locations where TCE was not detected in soil by the mobile laboratory analysis (**Table 4, Table 5, and Appendix F**):

f_{oc} Sample Location	Soil Sample Depth	Predominant Soil Grain Size
SB12A	48-48.3	Sand and silt
SB06A	26-28	Sand
SB41	18-19	Clay
SB23	22.5-23.5	Clay
SB25	7.5-8.5	Silt
SB25	30-31.5	Clay
SB36	45.5-45.7	Sand

Samples collected from transport zones were non-detect for f_{oc} above the MDL of 0.0002 grams of organic carbon per gram (g/g) of soil; for the purpose of the soil-water partition equation, half of the MDL was used for f_{oc} values in the equation. The f_{oc} results for samples collected from the storage and slow advection zones were detected between 0.00124 and 0.00239 g/g.

The physical properties of the storage and transport zones were collected with four Shelby tubes advanced during drilling operations. Physical properties of slow advection soils were taken from published values (USEPA 1996). Shelby tubes were analysed for dry bulk density and porosity. Geotechnical soil laboratory results from the Shelby tubes are presented in **Appendix F**. Porosity and dry bulk density for slow advection units were determined from literature values. The site-specific parameters used for soil-water partitioning are summarized in **Appendix J**.

To determine which sample results should be converted into groundwater equivalent values, an average water table surface of 6 ft bgs was estimated for the Site based on water-level measurements within existing monitoring wells. The exact depth to groundwater was difficult to determine at the boring locations due to the presence of dense, clay-rich soils. The conversion factors were then applied to all CVOC soil results below the estimated water table to produce the equivalent groundwater CVOC values for each sample. To be consistent with the soil samples presented above, the conversion factors were also applied to the non-detect soil MDL values to produce an "effective MDL" for equivalent groundwater. The equivalent groundwater values are summarized in **Appendix J** and the maximum equivalent groundwater TCE values are presented on **Figure 18**.

Table 13 presents grab groundwater sampling results alongside co-located soil sampling results, as well as the corresponding calculated soil to groundwater conversion ratios alongside observed soil to groundwater conversion ratios. Where co-located soil sampling results were non-detect for a CVOC, a comparison of the calculated versus observed soil to groundwater conversion ratios could not be performed. Such comparisons, therefore, were not completed for PCE or trans-1,2-DCE, as the co-located soil sampling results were non-detect for these compounds. A regression analysis of calculated versus observed equivalent groundwater concentrations from co-located samples indicated a high "goodness-of-fit" for TCE (R-squared value of 0.98) and cis-1,2-DCE (R-squared value of 0.97). The R-squared value is an indicator of "goodness-of-fit," with 0 representing no statistical correlation and 1 representing a perfect fit between the data and regression analysis trendline. Since only one co-located soil sample had a positive detection of VC, a regression analysis could not be performed on this single data point.

6.6.1 Western Side of Site

The highest TCE equivalent groundwater concentration in the western side of the Site was converted from a soil sample collected from SB11 at 25 ft bgs with an equivalent groundwater concentration of 7,200,000 µg/L based on soil result of 1,230,000 µg/kg. Soil boring SB11 was advanced approximately 50 ft east of the former TCE AST location, near monitoring wells MW-2 and MW-3, both of which have historically had the highest concentrations of TCE observed in monitoring well sampling results (94,900 µg/L for MW-2 and 106,000 µg/l for MW-3 as of February 2018).

6.6.2 Eastern Side of Site

The highest TCE equivalent groundwater concentration in the eastern side of the Site was converted from a soil sample from SB28 (69,000 µg/L, converted from 24,400 µg/kg) collected at 23.5 ft bgs. Soil boring SB28 was advanced approximately 150 ft southeast and downgradient of the highest sub-slab soil gas TCE detection (1,600,000 µg/m^3 at location SS-032) observed during the August 2016 ERM sub-slab soil gas investigation inside the Site building footprint. Shallow monitoring well MW-32 was installed near the location of SB28 with a screened interval of 15 ft to 25 ft bgs. The groundwater sampling results from this well location were used as a qualitative check on the assumptions utilized to complete conversion of soil to groundwater equivalents.

6.6.3 Northern Property Boundary

The highest TCE equivalent groundwater concentration along the northern property boundary was converted from a soil sample from SB04 (79 µg/L, converted from 13.9 µg/kg) collected at 24.5 ft bgs. Soil boring SB04 was advanced approximately 65 ft south and upgradient of 504 Kohl Street, a private residence where ERM vapor intrusion sampling in June 2017 identified TCE above the action level in sub-slab soil gas.

A third phase of EE/CA investigation was conducted in July 2019 to delineate groundwater impacts to the north at the adjacent residential properties and are briefly summarized herein. Three soil borings were advanced and monitoring wells were installed at each of the residential properties with existing soil vapor mitigation systems. Soils encountered at these boring locations revealed tight clay and silt facies. Groundwater levels measured in these wells were used to prepare groundwater elevation **Figures 15b** through **15d**, which confirm the groundwater flow direction from the Site is generally toward the north. Groundwater sampled from these new wells suggest that dissolved CVOCs in shallow groundwater are limited in their migration northward (**Table 7** and **Figure 16a**).

6.6.4 Site Building Interior

The highest TCE equivalent groundwater concentration beneath the Site building was converted from a soil sample from SB20 (500,000 µg/L, converted from 139,000 µg/kg) collected at 34.3 ft bgs. Associated with the western side of the Site, soil boring SB20 was advanced approximately 23 ft west of the former degreasing area in the Site building and approximately 70 ft south-southeast of the former TCE AST location. Of particular note are the equivalent groundwater samples from soil borings SB24 and SB44 through SB47 that had notably high TCE results (1,000 µg/L to 100,000 µg/L range) relative to the adjacent sub-slab soil gas sample results (1,600,000 µg/m^3 of TCE at location SS-032) observed during the August 2016 ERM sub-slab soil gas investigation. The analytical results of samples from SB24 and SB44 through SB47 form the rationale basis for the proposed removal action surrounding SB24, as described above in Section 6.3.

6.7 Hydrostratigraphic Model

A 3-D hydrostratigraphic model was developed for the Site based on the results of the sieve analysis and the detailed soil descriptions. Soil types encountered at each borehole were classified as either storage (clay facies), slow advection (silt facies), or transport zones (sand facies). Where stratigraphic sequences, such as course-grained or fine-grained sand lenses correlated among borings they were connected to form a continuous deposit based on location and/or orientation in combination with analytical results. The hydrostratigraphic model was built by extending from the borehole refusal upward in the sequence of deposition, with each unit either "pinching out" where it is absent in adjacent boring logs or connecting where a correlation is observed. The hydrofacies defined for each boring were interpolated with the Earth Volumetric Studio software (EVS) using kriging to generate the 3-D depiction of the subsurface units.

To interpolate hydrostratigraphy that would be representative of a connected or continuous transmissive zone and near horizontal stratigraphy, control points were added to smooth transitions between stratigraphic features. A 5X anisotropy ratio was applied to the interpolation in an approximate north-south direction to support the interpreted fine-grained to coarse-grained sand deposits. The Est K data from the sieve analysis could then be assigned to each hydrostratigraphic unit and used with the equivalent groundwater evaluation to estimate the relative mass flux.

6.7.1 Comparison of the Hydrostratigraphic Model to Waterloo^APS TM^ Data

The Waterloo^APS TM^ was used to compare the Est K data and the hydrostratigraphic model. The Waterloo^APS TM^ borings were completed as two transects, one along the northern property (**Figure 19a**) and one through the eastern portion of the Site (**Figure 19b**). A third transect was attempted through the western portion of the Site; however, it was aborted due to increasing technical difficulties with both the EC and HPT components of the Waterloo^APS TM^ probe. Waterloo^APS TM^ was not selected as the primary means of mapping relative permeability due to difficulty reaching total depths with the profiler, delays associated with technical issues, and the difficulty completing water sampling collection in clay dominated geology.

The EC and HPT data were used to help supplement the correlation of the hydrofacies throughout the thickness of the saturated zone based on the sieve analysis and field geologist descriptions. As shown on **Figure 19a**, low EC detections and high HPT responses correlated with the sand lenses identified during whole-core soil logging of locations SB04 and SB06 along the northern property boundary. Along the eastern portion transect (**Figure 19b**), both the EC and HPT responses are consistent with the predominantly clay soil encountered during soil logging of collocated borings. The Waterloo^APS TM^ boring logs are included in **Appendix K**.

6.8 Soil and Groundwater Data Validation

All laboratory data were reviewed and validated by Arcadis as being acceptable for the intended purpose of this EE/CA. Comments and observations for each sample delivery group are noted in the data validation checklists provided in **Appendix F**. The Level II data validation addresses data quality for samples and associated field and laboratory QC samples. Data impacted by noted excursions from the QA/QC criteria were qualified as indicated in the Data Review Reports. Validation of the analytical data included a review of data package completeness, laboratory control samples and method blanks, matrix spike recoveries, and holding time compliance. Laboratory calculations were not verified. Only QA/QC results and analytical data associated with COPCs were reviewed for this validation.

Problems with sample QA/QC criteria are discussed in the data validation checklists and were resolved. The analytical data appear to be valid and usable as reported by the laboratory with minimal qualification as discussed in the data validation checklists. Overall, the data quality was within the guidelines specified by the individual laboratory methods, subject to certain minor qualifications. No sample results were qualified as rejected due to major QA deficiencies, resulting in an overall usability of 100 percent, meeting the data quality objective for completeness of 90 percent.

6.9 Stratigraphic Flux Modeling

The stratigraphic flux model was developed by incorporating all the datasets described in the previous sections into the EVS model. The Est K from the sieve analysis was applied to the mapped hydrofacies to provide the 3-D hydraulic conductivity (K) field. Similarly, the equivalent groundwater data were interpolated to create a 3-D concentration (C) field. The model could then be sliced into fence diagrams to illustrate the hydrostratigraphic model, TCE distribution, and the relative mass flux. A summary of the fence diagrams developed for the Site, including saturated hydrostratigraphy and both vadose and dissolved TCE impacts, are presented as **Figures 20a** through **20d**.

Within the model, the extent of soil and groundwater impacts is interpreted within the limitations of each dataset. For TCE in soil, the MDL typically ranged from 6 to 150 µg/kg. For convenience, TCE impacts for soil are illustrated on a logarithmic scale starting at 10 µg/kg. For equivalent groundwater, the MDL typically ranged from 18 to 540 µg/L. For convenience, TCE impacts for equivalent groundwater are illustrated on a logarithmic scale starting at 10 µg/L. To produce a 3-D representation of relative mass flux, the K and C fields were multiplied together along each transect and then scaled to a consistent color ramp to provide a basis for comparison among transects as shown on **Figures 20a** through **20d**. The color-shaded equivalent groundwater and relative flux regions along each transect are truncated beneath the February 2018 water table surface, whereas the soil regions extend from the vadose zone into the saturated zone. Note that all regions are superimposed on the stratigraphic flux hydrofacies that are shown in gray scale, with the transport zones shown in white, the slow advection zones shown in gray, and the storage zones shown in dark gray.

In general, the hydrostratigraphy at the Site consists of a predominantly clay till (storage zone) with some fine-grained to coarse-grained, discontinuous sand lenses (slow advection and transport zones) representative of coarser-grained glacial outwash interspersed throughout. These slow advection and transport zones are interpreted to be oriented north to south, consistent with the glacial deposition and outwash. The highest soil and groundwater concentrations are observed within the storage zone, whereas the relative mass flux is highest along the slow advection and transport zones, supporting the understanding that targeted removals of the COPC mass within the storage zones will eliminate mass contribution to slow advection and transport zones.

7 CONCEPTUAL SITE MODEL

Based on completion of the EE/CA investigation, two source zones were identified for removal actions with a third minor source zone that appears to relate mainly from transport from one of the other source zones (**Figure 21**). The combination of soil sampling, sieve analysis, and groundwater sampling developed the current CSM to allow for completion of a streamlined risk evaluation, and to distinguish source zones in low permeability glacial tills from COPC transport zones in higher permeability sand lenses that are the main migration pathways. The two source zones reflect releases to the environment of potential non-aqueous phase liquid (NAPL), with no observed NAPL to date at either location reported historically or currently (**Figure 21**). A target soil concentration of 110 mg/kg TCE was used for a source zone delineation criteria and reflects 10% of TCE solubility. The two proposed treatment zones on the western side of the Site and under the building contains the majority of the chemical mass (50% to 80%) based on estimates from soil results and is contained within 4% to 8% of soil that is impacted. Overall, TCE chemical mass is predominantly stored within fine-grained, low permeability, storage zone soils with diffusion to transport zone soils. The removal action targets the storage zone soils and will minimize continuing contribution to downgradient areas.

Overall findings from the EE/CA investigation combined with historical information is that the Site is dominated by low permeability glacial deposits that consist mainly of clays representative of glacial tills that act as storage zones. The two main source zones were identified that indicate release of TCE: 1) in area of the Site near the former TCE AST, degreaser area, and wastewater treatment pit; and 2) under the slab of Building 2 with no known activities related to TCE use in the vicinity (**Figure 5**). A third potential source zone was identified but is characteristically different in the COPC data and geology present relative to the other two source zones and is more likely related to proximity to a migration pathway. **Figure 21** shows the locations of the two main source zones, the third minor potential source zone, and the discontinuous sand lenses that were identified during the EE/CA investigation. Geology at the Site consists of mainly unconsolidated glacial deposits that have been encountered in borings to depths of up to approximately 80 ft bgs, with bedrock observed at 71 ft bgs in the borehole for MW-25 and between 52.5 ft bgs (MW-27 borehole) and 62.5 ft bgs (MW-26 borehole) downgradient of the Site. The geology has historically been characterized as two distinct glacial tills. Although no such distinction was observed during the 2017 through 2018 EE/CA Site investigations, previous characterization of these tills has resulted in the designation of an upper predominantly clay till and lower silty till with some coarse-grained, discontinuous sand lenses. Additional stratigraphic observations from the EE/CA investigation identified the presence of vertical fracturing throughout the clay matrix of the glacial till at all depths. Vertical fractures were often observed to be filled with silt and/or very fine to fine-grained sand and ranged between 1 mm to 10 mm in thickness. These glacial tills have interspersed sand lenses that allow for COPC migration away from the source zones. In addition, disturbed fill material (clay with some silt and sand) overlies the glacial till existing beneath the majority of the Facility building. Boring descriptions indicate a thickness of approximately 8 ft on the west side that thins to approximately 1 ft thick toward the east side of the Facility building.

Depth to groundwater at the Site appears to be less than 5 ft bgs beneath the Facility building, approximately 6 to 7 ft bgs to the north, approximately 8 ft bgs to the east, and approximately 1 to 3 ft bgs to the west near the surface drainage and creek adjacent to the Site. Groundwater flow direction is documented by the existing well network to be radially westward, eastward, and northward from the Facility building. The shallow groundwater table elevation (**Figure 15a**) mimics the surface topography and regional drainage pattern, as shown on **Figure 9.** This shallow depth to water allowed for the movement and/or dissolution of the COPC readily into groundwater with little to no vadose zone available at the majority of the Site. However, based on the geology observed at the Site, the majority of the subsurface consists of low permeability clays with discontinuous lenses of silt and sand. Although the range of groundwater hydraulic conductivities vary several orders of magnitude, representing zones of mass storage (clays) and transport (sands), the purpose of the estimates is as a line of evidence within the CSM that allows for an overall characterization and nature of the site geology.

Results of the EE/CA investigation show that source zone that was historically identified through previous investigations to be in the vicinity of the former operations that included a TCE AST, degreaser area, and wastewater treatment pit is substantially larger in volume and magnitude of concentrations in comparison to the other source zone under the slab of Building 2 with no known activities related to TCE use in the vicinity (**Figure 5**). This second source zone under the slab of Building 2 was initially identified through the completion of the sub-slab vapor investigation as a hot-spot with the EE/CA investigation completing soil borings in the area of the highest sub-slab vapor concentrations. TCE results in monitoring wells MW-32, MW-33, and MW-34 appear to be related to the second source zone beneath the concrete slab. Building construction plats were not available as the Facility was expanded as operational requirements arose, therefore, segments of the building were added over time. **Figure 5** provides the date(s) that the various building segments were constructed. As indicated, the source zone under the slab of existing Building 2 was an open area between the time Building 1 was constructed (1950) and the subsequent construction of Building 2 (1956-1961). The storage and handling of TCE during this interval of time is not known.

Overall, the western source zone consists of a lateral and vertical extent of 128 ft by 128 ft and 35 ft depth for concentrations based on soil above 110 mg/kg. The source zone under the building is shallower with a lateral and vertical extent of 30 ft by 30 ft and 6 ft depth based on soil above 110 mg/kg. East of these two source zones is a detected TCE concentration of 24,400 µg/kg (at SB28) collected at 23.5 ft bgs just below a transition from a sand lense to the glacial till that is predominantly clay.

8 STREAMLINED RISK EVALUATION

This section presents a summary of the SRE for the COPCs identified in the approved EE/CA Work Plan (i.e., TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and VC) in groundwater, surface and subsurface soils, and indoor air for the Site and off-site area. The full evaluation is presented in **Appendix L** to this report and was conducted in accordance with the approach set forth in the USEPA approved 'Proposed Approach for Streamlined Risk Evaluation, Toastmaster – Macon Site' (Arcadis 2018c). The objectives of the SRE were to: identify media to which there is a potential for human exposure; identify COPCs whose concentrations exceed USEPA risk-based screening levels; and identify what current or potential future exposures may need to be prevented and to support the selection of a removal action alternative. As specified in USEPA (1993), an SRE is intermediate in scope between the limited risk evaluation undertaken for emergency removal actions and the conventional baseline risk assessment normally conducted for CERCLA remedial actions involving the remedial investigation/feasibility study process.

Based on the CSM developed for the Site and off-site area, the following potential on-site and off-site receptors were evaluated in the SRE based on current and future conditions in the absence of institutional controls and restrictive covenants for on-site land use. These exposure assumptions are required for the SRE notwithstanding that institutional controls and restrictive covenants will be in place at the time the removal action selection is made:

On-site Receptors

- Future on-site worker exposed to indoor air;
- Current/future on-site worker (outdoor) exposed to uncovered surface soil (0 to 2 ft bgs); and
- Future on-site worker (outdoor) exposed to uncovered and sub-slab surface soil (0 to 2 ft bgs).

Off-site Receptors

- Future off-site commercial/industrial worker exposed to indoor air;
- Future off-site resident exposed to indoor air; and
- Current/future off-site commercial/industrial worker exposed to surface soil (0 to 2 ft bgs) at the two commercial properties located immediately east of the Site.
- Future off-site resident exposed to surface and subsurface soil at the two commercial properties located immediately east of the Site, assuming land use changes to residential in the future.

The results of the SRE are provided below by data group and receptor:

Surface Soil 0 to 2 ft bgs – Current and Future On-site Workers and Current and Future Off-site Workers

- Uncovered surface soils on-site and off-site do not represent a potential exposure risk to current on-site workers or current and future off-site workers.
- Sub-slab surface soils located on-site have detected concentrations of TCE above the industrial regional screening levels (RSLs) indicating a potential for unacceptable risk should future on-site worker exposure conditions meet exposure assumptions inherent in the RSL calculation.
- No covered surface soil samples were collected off-site.

Surface and Subsurface Soil 0 ft bgs to Water Table – Future Off-site Resident

Uncovered surface and subsurface soil at the two off-site commercial properties do not represent a potential exposure risk to future off-site residents assuming the off-site commercial properties are redeveloped in the future.

Surface and Subsurface Soil 0 ft bgs to Water Table – Cross-Media Transport

- On-site uncovered surface and subsurface samples evaluated for cross-media transfer have no detected concentrations above the soil screening levels (SSLs). This indicates that the residual concentrations of the COPCs in the uncovered soil on-site does not represent a leaching concern.
- Sub-slab surface and subsurface samples located on-site and evaluated for cross-media transfer have detected concentrations of TCE above SSLs. These sub-slab locations are collocated in the eastern portion of the building. This indicates that these locations have the potential to represent a continuing release source to underlying groundwater which is already affected.
- Off-site soil evaluated for cross-media transfer had no detectible concentrations of the COPCs above their respective SSLs.

Groundwater

- 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, TCE, and VC were confirmed as COPCs in groundwater.

Indoor Air

- TCE and VC were detected above residential and industrial RSLs in indoor air samples collected off-site and would represent a risk for potential future off-site receptors based on the exposure assumptions inherent in the RSL calculation.
- TCE was detected above industrial RSLs in indoor air collected on-site and would represent a risk for potential future on-site receptors based on the exposure assumptions inherent in the RSL calculation.

The results of the SRE are utilized in this EE/CA report to help identify removal action alternatives at the source zones appropriate to reduce the exposure risk associated with the site-related COPCs. As noted previously, the receptors and exposure pathways evaluated in the SRE were based on current and future conditions in the absence of institutional controls and restrictive covenants for on-site land use, notwithstanding that such controls and covenants will be in place at the time the removal action selection is made. The institutional controls, which are discussed in detail in Section 9.1, limit use of the property to only outdoor open-air activities and prevent construction of buildings or enclosed structures on the property.

Subsequent to receipt of the second round of USEPA comments (April 2020) regarding the EE/CA report, virtual meetings were held with the USEPA in June 2020. The focus of these meetings was to develop criteria for defining the level of TCE contamination in soil that would be subject to treatment as part of the removal action. USEPA initially proposed use of the Removal Management Level (RML) for TCE in soil for a composite worker scenario but acknowledged that an alternative site-specific action level might be justified provided methodologies for calculation of the alternative action level was provided. Arcadis subsequently provided USEPA with alternative site-specific action levels calculated based on the institutional controls and land use restrictions that will be in place at the time the removal action selection is made, resulting in agreement that the composite worker scenario is not applicable and that instead, soils with TCE in excess of 110 mg/kg would be subject to source treatment. Additional information is provided in the following section.

8.1 Development of Alternative Site-Specific Action Levels for Soil

In April 2020 Spectrum Brands received a USEPA letter titled “Comments on the Toastmaster-Macon Superfund Site EE/CA Report” (USEPA 2020b). This letter provided comments regarding the Spectrum Brands document titled “Final Response to EPA Comments – EE/CA Report” which was submitted in October 2019. USEPA’s April 2020 letter proposed the RML for TCE in soil of 19 mg/kg for a composite worker scenario for consideration as a level for defining the TCE soil cleanup level (Comment 3. RTC 2 (a) of the comment letter). As discussed on the June 2 and June 16, 2020 conference calls between representatives of USEPA, Spectrum Brands, and Arcadis, the RML of 19 mg/kg is not appropriate for the site because once the source zone removal action is selected institutional controls will have been implemented, in accordance with property-specific Environmental Notice and Restrictive Covenant (Covenant), that prevent composite worker exposure conditions from occurring and restrict use of the Site to only outdoor open-air activities. Additional provisions of the Covenant are provided in Section 9.

Based on these considerations, and in accordance with USEPA Comment 3. RTC 2 (c) of the April 2020 comment letter, an alternative site-specific action level (AAL) for TCE has been developed for use at the site that is protective of direct contact exposure to soil. The site-specific AAL takes into consideration allowable future uses for the Site which account for the institutional controls that will be in place when the removal action selection is made.

As discussed during the June 2, 2020 conference call, the USEPA's online RML calculator was used to develop AALs for three possible receptors based on future land use restrictions to be imposed on the Site: maintenance worker, outdoor farmers market vendor, and outdoor flea market vendor. Site-specific inputs for exposure frequency (EF) and exposure time (ET) were developed for each receptor based on potential land use options for open-air activities being considered by Spectrum Brands and on local information relative to farmers markets and flea markets.

An EF of 50 days per year and an ET of 6 hours per day were used in the AAL calculation for the maintenance worker. The EF assumes mowing will occur during warm months and snow removal and general ground keeping will occur during cold/winter months, and that these activities would be conducted at a frequency of 1 day per week, 50 weeks per year. The ET of 6 hours per day is the maximum daily work period set by Spectrum Brands for maintenance activities. All other parameters used in the AAL calculation for the maintenance worker were consistent with those for the generic composite worker scenario including a hazard quotient of 1 and a target cancer risk of 1E-04.

An EF of 40 days per year and the default ET of 8 hours per day were used in the AAL calculation for the outdoor farmers market vendor. The EF assumes the outdoor farmers market vendor would be present 2 market days per week, 4 weeks per month for a 5-month regional outdoor farmers market season from May to October. The length of the outdoor farmers market season was determined from review of calendars available for farmers markets within a 50-mile radius of the Site, as well as regional growing and harvest seasons. All other parameters used in the AAL calculation for the outdoor farmers market vendor were consistent with those for the generic composite worker scenario including a hazard quotient of 1 and a target cancer risk of 1E-04.

An EF of 56 days per year and an ET of 6 hours per day were used in the AAL calculation for the outdoor flea market vendor. The EF assumes the outdoor flea market vendor would be present 2 market days per week, 4 weeks per month for a 7-month outdoor flea market season from March to October. The length of the outdoor flea market season was based on regional weather conditions and assumes the market would not be open during the late fall and winter months. The ET of 6 hours per day is the maximum daily work period set by Spectrum Brands for merchandise sales activities. All other parameters used in the AAL calculation for the outdoor flea market vendor were consistent with those for the generic composite worker scenario including a hazard quotient of 1 and a target cancer risk of 1E-04.

These site-specific EFs and ETs were used in the USEPA's online RML calculator to derive the following AALs for each receptor: 124 mg/kg for maintenance worker; 117 mg/kg for outdoor farmers market vendor; and 110 mg/kg for outdoor flea market vendor. The exposure parameters, toxicity values, physical/chemical properties, and target risk and hazard quotient used in the AAL calculations are provided in the RML calculator output files presented in **Appendix L1**.

Based on input from Spectrum Brands, the outdoor flea market vendor was identified as the most likely receptor for the Site once the removal action selection is made. The corresponding AAL of 110 mg/kg is protective of direct contact exposure to TCE in soil for the outdoor flea market vendor.

As discussed with and agreed to by the USEPA on the June 16, 2020 conference call, 110 mg/kg is an acceptable soil cleanup level for the EE/CA source zone removal action.

9 REMOVAL ACTION OBJECTIVES

As specified in the USEPA Guidance, the EE/CA is intended to provide a streamlined approach for evaluating and selecting alternative technologies for non-time-critical removal actions at a site. The specific RAOs presented below have been developed based on the results of the EE/CA investigation presented above, the development of a CSM and the Applicable or Relevant and Appropriate Requirements (ARARs) that have been identified. The RAOs were developed to minimize the potential for exposure to human and ecological receptors due to contamination at the Site.

The general evaluation criteria for the analysis of potential removal actions defined by USEPA guidance are effectiveness, implementability, and cost (EPA 1993). The effectiveness component is based on the ability to meet the RAOs that include:

1. Reduces the source mass contribution to potential vapor intrusion issues at the Site, and
2. Reduces source mass contribution to the dissolved COPC plume.

In further justification of an AAL of 110 mg/kg, Arcadis provided USEPA with documentation that showed at 110 mg/kg, the removal action will address the vast majority of TCE contaminant mass effectively but a lower action level would result in treatment of a much larger volume of soil with little corresponding benefit. Cost documentation also was provided to illustrate the rapid increase in cost of soil/source treatment, again, with little corresponding benefit.

An evaluation of the source area indicates a decline in TCE soil concentrations with distance once concentrations have reached approximately 110 mg/kg. This decrease in soil concentrations indicates that 1) migration of COPCs at concentrations contributing to residual impacts in soil lowers dramatically at this level, and 2) natural processes (as demonstrated by both the reduction in concentrations and the presence of degradation products in soil and groundwater samples) with attenuation of COPCs.

The removal action, per the EE/CA Work Plan of the ASAOC, reduces the concentration of TCE and its degradation products in source zones. Based on the confirmation of probable areas for the source zones (historic releases), the proposed removal action targets approximately 50% to 80% of the estimated TCE chemical mass in soil. The source zone removal action balances the active removal of significant chemical mass with monitoring natural attenuation (MNA) of the COPCs outside the treatment area. The subsequent natural attenuation monitoring will evaluate dissolved COPCs over time.

In addition, the proposed removal action will be consistent with the future use of the property, including institutional controls restricting certain Site uses. A summary follows for the Institutional Controls (ICs), Engineering Controls (ECs), and the Covenant that will be in place for the Site prior to implementation of the source zone removal action.

9.1 Institutional Controls

As part of a Consent Decree and Judgment (Consent Decree) resulting from litigation between Spectrum and Compton's (as to Compton's obligation to undertake all environmental remediation required at the Site), Compton's executed an Environmental Notice and Restrictive Covenant for the purpose of subjecting the Site to certain activity and use limitations as provided in the Missouri Environmental Covenants Act. The Covenant includes activity and use limitations that effectively place ICs on the property by means of deed restrictions. The executed Restrictive Covenant is to be recorded against the property in advance of remedy selection.

The USEPA defines institutional controls as non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for exposure to contamination and/or protect the integrity of a response action (USEPA 2012). ICs, a subset of Land Use Controls, are being held by Spectrum Brands and pursuant to the terms of the Consent Decree, will be recorded once the facility is demolished. Those institutional controls include:

- No residential Use / No Non-residential use in an enclosed structure;
- No disturbance of soil (without written approval from the MDNR and/or USEPA);
- Construction worker notice related to soil disturbance;
- ECs for soil (are maintained so as to prevent exposure, release, or migration of contaminants from the soil);
- No drilling or use of groundwater;
- ECs for groundwater (must remain in place and remain effective so as to prevent exposure, release, or migration of contaminated groundwater);
- No construction worker exposure to groundwater;
- Construction worker notice related to groundwater exposure;
- No construction of buildings (without written approval from the MDNR, USEPA, and Spectrum Brands).

9.2 Engineering Controls

The vapor intrusion mitigation systems installed at three houses off-site on Kohl Street (404, 406, and 504) provide an EC for an unacceptable risk associated with impacts existing at these residential properties. These sub-slab depressurization systems will be evaluated, maintained, and monitored for vacuum coverage, and potentially indoor air quality to confirm their efficiency. The operation and maintenance (O&M) of these three systems is further discussed in Section 12.2.

10 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

The purpose of this section is to identify the ARARs that will govern removal action implementation. The NCP requires that removal actions, to the extent practicable considering the exigencies of the situation, attain ARARs under federal environmental or state environmental or facility siting laws. Evaluation and selection of the removal action alternatives in the EE/CA will include an analysis of the proposed action's ability to comply with the identified ARARs. In addition, relative costs and the implementability of a removal action alternative will depend, in part, on the ARARs, which may specify substantive permit requirements; air, soil, or groundwater treatment standards; monitoring requirements; or waste treatment or land disposal restrictions.

10.1 Definitions and Methodology for Identifying ARARs

Applicable requirements are cleanup standards, standards of control, or other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, COPC, removal action, location, or other circumstance at a CERCLA site (USEPA 1988).

Relevant and appropriate requirements are cleanup standards, standards of control, or other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not legally applicable to a hazardous substance, pollutant, COPC, removal action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the site such that their use is well-suited to the particular site (USEPA 1988).

For on-site removal actions, the NCP requires attainment of ARARs to the extent practicable. When the analysis shows a requirement is both relevant and appropriate, it must be complied with to the same degree as if it were applicable (USEPA 1988) for implementation of removal action. The NCP specifies factors to be used in evaluation whether a requirement is relevant and appropriate. The factors are used to evaluate whether the requirement is addressing a problem or situation that is sufficiently similar to the proposed removal action (relevant) and also whether the requirement is applicable to the site (appropriate). This evaluation ensures that a requirement determined to be relevant is also determined to be appropriate and, therefore, is qualified as an ARAR. The ARAR provision in CERCLA addresses only on-site actions. Section 121(e) exempts on-site actions from having to obtain federal, state, and local permits.

An additional factor to consider in evaluating requirements for compliance is whether the requirement is administrative or substantive. Substantive requirements are those requirements pertaining directly to actions or conditions in the environment; administrative requirements are those mechanisms that facilitate implementation of the substantive requirements of a statute or regulation. On-site CERCLA response actions must comply with substantive requirements or other environmental laws, but not administrative requirements. Substantive requirements include cleanup standards or levels of control. Administrative requirements include procedures such as fees, permitting, inspection, and reporting. Off-site actions must also comply with requirements that are legally applicable, but those actions must comply with both the substantive and administrative parts of those requirements.

10.1.1 Categories of ARARs

ARARs can be placed into three categories: chemical-specific, location-specific, and action specific. The definition of each type is given below:

- Chemical-specific requirements are usually established numerical standards that represent an acceptable amount or concentration in the environmental medium of concern (groundwater, surface water, soil, or air). If a chemical has more than one standard, the most stringent standard is used as the appropriate ARAR.
- Location-specific requirements are limitations on allowable concentrations of hazardous substances or on activities solely because they may impact special locations including fragile ecosystems, flood plains, wetlands, or historic designations.
- Action-specific requirements are usually technology or activity-based requirements or limitations on actions taken with respect to hazardous wastes. The requirements are triggered not by specific chemicals present at a site but rather by the particular removal activities that are selected.

10.1.2 State ARARs

Under the NCP, removal actions must comply with ARARs, which include state promulgated environmental regulations, if any, that are more stringent than federal environmental regulations. State ARARs are also used in the absence of a federal ARAR, or when a state ARAR is broader in scope than the federal ARAR. The State of Missouri and the implementing Agency, the MDNR, have respectively adopted statutes and administrative regulations that are ARARs.

10.2 ARAR Identifications

The following sections detail the potential chemical-specific, location-specific, and action-specific ARARs. The potential ARARs are grouped by ARAR designation (chemical, location, and action, with identification of both potential state and federal ARARs under each category). Potential ARARs are summarized by type in **Tables 14** through **16**.

10.2.1 Evaluation of Potential ARARs

The ARAR evaluation was conducted in accordance with CERCLA Compliance with Other Laws Manual, Parts I and II (USEPA 1989) with consideration of constituents of potential concern and any special circumstances of each area of concern location.

10.2.1.1 Chemical-specific ARARs

Potential chemical-specific requirements are described in this subsection and summarized in **Table 14**. Although there are several potential ARARs, none of the potential requirements were considered to be applicable or relevant and appropriate for removal action implementation.

10.2.1.2 Location-specific ARARs

Location-specific ARARs are used to protect sensitive locations, such as wetlands, historical places, flood plains, or sensitive habitats. These ARARs may restrict the concentration of a hazardous substance that may be disposed of in the location; or may restrict or regulate the types of removal activities that can be performed in the location. **Table 15** lists the potential location-specific ARARs for the Site. The table includes the citation for the ARAR, a description, whether the ARAR is applicable or relevant and appropriate, and an explanatory comment. No location-specific requirements were considered to be ARARs for removal action implementation.

10.2.1.3 Action-specific ARARs

Action-specific requirements are not established for a specific COPC, but rather by the activities that are selected to accomplish a removal action. They may establish performance levels, actions, or technologies as well as specific levels for discharged or residual COPCs. **Table 16** lists the potential action-specific ARARs for the Site. Potential action-specific ARARs for this EE/CA include: hazardous waste management sections of Resource Conservation and Recovery Act (RCRA) regulations, selected subparts of regulations for owners and operators of permitted hazardous waste facilities, and substantive requirements of Missouri air quality and water pollution control regulations. The action-specific ARARs for each alternative will vary, depending on the technologies employed to meet the RAOs.

Based on the current understanding of soil and groundwater at the Site and the historical review of the potential releases, it is not considered a listed hazardous waste as was presented in the July 6, 2018 letter to the USEPA "Proposed Determination of Investigation Derived Waste, Toastmaster – Macon Site, Macon Missouri." (Arcadis 2018a). However, based on soil analytical results at the Site, it is possible that some excavated soils and/or collected water will contain levels of TCE that exceed the toxicity characteristic level. If such material is generated, the hazardous waste determination requirements in 10 Code of (Missouri) State Regulations (CSR) 25-4.261 are applicable. The substantive requirements found in 10 CSR 25-7.264 Subpart X pertaining to miscellaneous units, may be relevant and appropriate to remediation wastes managed during the removal action. The requirements pertaining to the design and closure of those units may be relevant and appropriate.

CERCLA Section 121(e)1 stated "No Federal, State, or local permit shall be required for the portion of any removal or remedial action conducted entirely on-site, where such remedial action is selected and carried out in compliance with this section." Section 300.400(e) of the 1990 NCP (USEPA 1990) states that the term "on-site" for permitting purposes shall include the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action.

10.3 Summary of ARAR Identification

No chemical-specific ARARs were identified (see **Table 14**). No location-specific ARARs were identified (see **Table 15**). Action-specific ARARs were identified that may be applicable or relevant and appropriate, depending on the actual technology selected as the recommended removal action. These action-specific ARARs are specified in **Table 16**.

11 CONCEPTUAL REMOVAL ACTION ALTERNATIVES FOR SOIL AND GROUNDWATER

Removal goals for this EE/CA are to develop removal alternatives intended to address source zones identified during the investigation activities. Based on the current understanding of the Site, a focused approach for removal alternative selection is proposed to utilize established remedies for TCE-impacted sites with similar geologic and hydrogeologic conditions that streamlines the remedy selection process in the EE/CA. Among the presumptive removal action alternatives for various media and source zones are:

- Thermal Treatment – direct source area thermal treatment to reduce concentrations of COPCs and reducing migration from soil to groundwater.
- Soil Excavation – direct removal of all or portion of source zone impacted soil including ex situ treatment and/or disposal options.
- In situ Stabilization – source area soil stabilization to prevent or reduce migration of contamination from soil to groundwater.

Overall, the investigation results were used to estimate mass by volume of soil treated for estimating costs of source zone treatments. Source zone treatments are targeted to achieve maximum source removal/reduction with practicality of costs to implement the technologies typical of source treatment. This source zone removal action will be combined with MNA for groundwater based on the colocation of the main soil impacts occurring at or below the water table. Based on the combination of the technologies, ICs, and ECs, receptors will be protected.

Other technologies that are potentially effective for the COPCs were eliminated as primary source removal approaches based on the nature of the geology, and other factors at the Site. Geology at the Site consists mainly of clay tills of low permeability with areas of higher permeability sand and gravel lenses. Injection or extraction wells installed in the low permeability areas would have lower extraction or injection rates and smaller radii of influence. Therefore, technologies that rely upon injection and extraction, such as pump-and-treat, injection based in situ bioremediation, and injection based in situ chemical oxidation, would be difficult to implement effectively on a site-wide basis and/or without being implemented in conjunction with another source removal approach at the Site. In addition, these technologies may be less appropriate or require longer time frames to address the areas of the Site with the highest COC concentrations. While these injection/extraction-based technologies have not been considered as primary removal approaches in this EE/CA, they could be considered as needed to supplement the selected primary source removal technology for the Site to cost-effectively address areas of lower COC concentrations or areas with access restrictions in a cost-effective manner.

The presumptive removal action alternatives are analyzed in the following sections for their effectiveness, implementability, and cost by the process described in this section giving appropriate recognition to the fact that such remedial options have proven successful at similar sites. Effectiveness can be evaluated in terms of protectiveness and ability to achieve RAOs. The protectiveness of the alternatives can be assessed in terms of protection of public health and the community, protection of workers during implementation, protection of the environment, and compliance with ARARs. The implementability of alternatives depends on their technical feasibility, the availability of necessary resources to support the alternatives, and their administrative feasibility. The cost of the alternatives is determined by looking at capital costs, costs for operation and maintenance, and present worth cost. Based on this analysis, as well as comparative analysis, if needed, recommendation for the source removal actions are provided.

11.1 In Situ Thermal Remediation

In situ thermal remediation (ISTR) technologies include various methods for applying energy to the subsurface to raise in situ temperatures within a targeted treatment area. ISTR is generally classified as an enhanced physical recovery technology for VOCs and select semi-volatile organic compounds (SVOCs) as it is typically employed in combination with physical extraction methods (e.g., Multi-Phase Extraction (MPE), Soil Vapor Extraction (SVE), etc.) and ex situ treatment of recovered vapors/fluids. The primary effect of introducing heat to the subsurface is expedited VOC mass transfer to the vapor phase by increasing vapor pressures/volatilization rates, increasing the air permeability of the soil, and enhancing the gas-phase diffusion process, thereby significantly improving vapor-phase mass removal rates. However, heating during ISTR has also been demonstrated to: (1) enhance liquid phase recovery of NAPL; (2) promote expedited in situ biodegradation rates at lower temperature ranges; and (3) promote expedited temperature enhanced autodecomposition reactions (e.g., hydrolysis/dehydrohalogenation) for susceptible constituents (e.g., 1,1,1-tetrachloroethane). ISTR technologies have proven to be effective treatment options for reducing/eliminating NAPL, entrapped source mass (i.e., mass trapped in the aquifer matrix at less than residual saturation levels), as well as dissolved and adsorbed phase COPCs associated with VOCs, chlorinated VOCs, and many SVOC constituents within relatively short time periods (Suthersan, et al. 2017).

Currently, available ISTR heating technologies include: steam injection; electrical resistance heating (ERH); conductive heating/in situ thermal desorption (ISTD); radio frequency heating (RFH), steam enhanced extraction (SEE), and combustion/smoldering. The selection of the appropriate ISTR technology is highly dependent on chemical and physical properties of the targeted COPCs; concentration, mass distribution; the geologic/hydrogeologic setting in which the technology will be employed; and the availability of power at the Site. ISTD has been selected as the most appropriate ISTR technology given the COPCs and hydrogeologic setting.

ISTD is a conductive heating technology that utilizes a network of “heater points/wells” to conductively transmit heat energy to the surrounding soils. Unlike ERH and RFH, ISTD does not require the presence of water in the treatment volume to transmit energy. ISTD also does not involve the introduction of additional fluid/water to the subsurface, as in SEE and some ERH applications. Not limited by the boiling point of water, ISTD is capable of achieving temperatures much higher than other thermal technologies and is thereby capable of promoting treatment of a wider variety of COPCs (i.e., COPCs with boiling points above that of water and/or COPCs that are miscible in water [e.g., 1,4-dixoane]). ISTD also has the added benefit of providing relatively uniform and predictable heating, even in highly heterogeneous settings, because the thermal conductivity of a wide range of soil types varies only by a factor of approximately four over the complete range of soil types (sand, silt, clay, gravel, and bedrock), and moisture contents.

In a typical ISTD application, a network of steel heater points and MPE/SVE wells are installed using conventional drilling techniques across a target treatment area. The most common form of ISTD heater utilizes electrical current applied to electric heating elements within the casings to create the heat source; however, gas heating methods are also available. COPCs and groundwater vaporized/mobilized during the heating process are extracted from the subsurface under vacuum applied to the MPE/SVE wells. The extracted fluids/vapor are collected and treated using conventional ex situ treatment techniques (e.g., phase separators, granular activated carbon [GAC], oxidizers, etc.) as necessary to remove the COPCs and are typically discharged to allowable/permitted receptors (e.g., atmosphere [vapor], publicly-owned treatment works or POTW [water]). ISTD applications generally do not have conventional groundwater pumping wells because hydraulic control is maintained by the operation of the MPE system and vaporization (boiling off) of the water within the treatment zone.

11.1.1 Short-term Effectiveness

ISTD relies on the conveyance of heat from a heating source via earth materials to the impacted soil and groundwater in order to volatilize the COPCs and achieve COPC mass removal via traditional extraction techniques. The relative range of thermal conductivities allows uniform heating and treatment within an impacted zone when compared to delivery of reagents, which is dependent on permeability that may vary by orders of magnitude in natural geological material. This makes ISTD more effective than other methods for heterogeneous formations or treatment zones with a large fraction of stagnant pore spaces in which COPC mass is inaccessible to treatment reagents.

In addition to direct vaporization of COPCs, the heat transmitted into the impacted materials enhances various processes that result in accelerated removal of COPCs from the sorbed and aqueous phases. These processes include an increase in vapor pressure of organic materials, decrease in viscosity, and increase in diffusion rates and solubility. These effects combined allow ERH to achieve more complete COPC removal (>90%) than is possible with other techniques within a short period of time.

11.1.2 Long-term Effectiveness

As discussed above, ISTD is effective in treating COPCs residing in stagnant pore spaces. This consequently reduces the potential for concentration rebound, which is attributed to the diffusion of COPCs from stagnant pore spaces into pores participating in groundwater flow. In addition, source removal with ISTD reduces / eliminates mass flux from the source area to downgradient areas, decreasing the time frame of overall Site cleanup.

11.1.3 Implementability

The high subsurface temperatures as a result of ISTD implementation may require relocation of the existing underground utilities. Specially designed piping and equipment is also required to accommodate conveyance of hot fluids and piping expansion due to heating. Soil desiccation and the resultant shrinkage that would occur in the vicinity of water table due to heating may be a concern for foundations and utilities. Once an area for treatment has been designated, it can be expanded more easily without a substantial cost increase than the excavation option. In addition, treatment of source mass under the building is feasible with ISTD by installing heating elements inside the building.

11.1.4 Community Impact

Installation of an ISTD system involves drilling, trenching, and underground piping installation. The implementation of ISTD requires adequate health and safety management and measures to protect workers and the general public from the hazardous voltage, steam, high temperatures, and intrusive work. During the operation of ISTD, the treatment area may not be accessible due to electrical and steam hazards.

11.1.5 Sustainability

ISTD is an energy intensive technology as it utilizes electrical energy to heat the treatment area. ISTD also requires treatment of vapor recovered from the subsurface. Vapor treatment using GAC units may require disposal of activated carbon in a landfill.

11.1.6 Time Frame and Cost

ISTD has relatively high upfront capital costs but short treatment time frame. The overall time frame for ISTD design and operation is expected to range from one to two years. The total project costs for ISTD are presented in **Appendix M** which includes project management (**Sheet M1**), implementation (**Sheet M2**), and post-remediation monitoring and post-remediation monitoring (**Sheet M5**). The cumulative cost is approximately $7.9MM for the 17,000 square foot (ft^2) treatment area and 60 ft^2 that includes the western building area and building area respectively (**Figure 21**). The cost of ISTD is less sensitive to the treatment footprint than excavation and there is limited increase in cost with the expansion of treatment area.

11.1.7 Summary

The advantages and disadvantages of ISTD are summarized in the following:

Advantages:

- Effectively removes COPC mass from subsurface for ex situ treatment.
- More effective in removing residual source mass and is less limited by formation heterogeneities to the extent that other options are (e.g., effective in fine-grained soils), therefore less uncertainty regarding treatment effectiveness.
- Treatment time frame is expected to be significantly shorter than injection-based treatment technologies (e.g., enhanced reductive dechlorination and in situ chemical oxidation).
- Less disruption to Site operations compared to excavation or in situ stabilization.
- Lower cost increase for expanded area than for excavation.
- Extension of treatment underneath the building may be feasible provided drilling operation is possible inside the building.

Disadvantages:

- High upfront capital cost regardless of size.
- Low permeability of glacial till may complicate vapor removal (or increase its scope).
- Requires relocation of existing underground utility lines.
- Potential geotechnical (settling) issues for building.

- Heat transfer beyond the COC capture system can result in downgradient mobilization of COPCs.

11.2 Excavation and Off-site Disposal

In the implementation of this remedial alternative, source area soils would be excavated and transported off-site for disposal. The resulting excavation would be backfilled and compacted with clean, imported backfill material. The removed soil would require sampling and analysis using the Toxicity Characteristic Leaching Procedures to identify whether the impacted soil could be disposed of as non-hazardous or hazardous waste under the RCRA.

Due to the geotechnical (i.e., settling) concerns associated with implementing a deep excavation adjacent to an existing building, a large-diameter caisson excavation would be recommended for this Site. It involves the use of heavy drilling equipment to advance an auger below grade. Soil will be removed and disposed of, leaving a cylindrical void in the ground. The resulting column will be filled with a lean concrete to maintain the structural integrity of adjacent surfaces and buildings. Columns will be drilled in a pattern and order so that each hole overlaps adjacent holes. This will minimize the possibility of leaving targeted soils in the ground between holes.

As mentioned previously, the majority of the source mass in the on-site source area resides under the water table. As such, dewatering would be required during lean concrete placement and possibly during excavation. The concrete would be installed using the tremie method, which will displace water that accumulates in the excavation. This water would be pumped out as it rises towards existing grade. Recovered groundwater would be stored temporarily in large Frac tanks and treated on-site prior to discharging to a POTW. In addition to the Frac tanks and a temporary groundwater treatment shed, a relatively large staging area would also be required during excavation operation for spoil, soil, equipment, and decontamination pad. The operation is expected to occupy the area of the existing parking lot shown on **Figure 21**.

11.2.1 Short-term Effectiveness

Excavation would be effective in the short term by allowing the immediate removal of impacted soil identified as the source area. Excavation physically removes the mass from the defined area; as such the area would not provide mass flux to the groundwater system.

11.2.2 Long-term Effectiveness

Provided that the source is adequately delineated, excavation effectively removes source mass as well as the impacted media, hence eliminating the potential for concentration rebound in the future. In addition, source removal with excavation reduces / eliminates mass flux from the source area to downgradient areas, decreasing the time frame of overall Site cleanup.

11.2.3 Implementability

In addition to the health and safety concerns, the use of excavation for source removal at the Site has the potential to be technically challenging because of the existence of source mass at depths greater than 40 ft. A rock coring bit would be required on the Site should auger drilling not achieve the targeted depth. Excavation may not be used to remove source mass under the building where current source mass is located (approximately 20% of the potential footprint). Finally, relocation of underground utility lines in the treatment area would be required prior to excavation.

11.2.4 Community Impact

Excavation is a disruptive process requiring a large area for equipment, soil staging, and equipment maneuvering. The operation would temporarily disrupt business at the Site for several months by taking up a significant part of the available parking. In addition, the operation may pose physical and chemical hazards to the public because of the use of heavy equipment (including trucks on roadways), the handling of potentially hazardous soil and groundwater, and generation of vapor and dust in close proximity to nearby business and residences. Adequate health and safety planning and management are necessary to ensure safe excavation operation at the Site.

11.2.5 Sustainability

Excavation requires natural resources such as clean soil for backfilling and landfill space for impacted soil disposal. This alternative does not treat but simply relocates contamination; health risks posed by exposure to impacted materials may affect communities living in the vicinity of hazardous waste landfills.

11.2.6 Time Frame and Cost

The remedial action process including design, excavation, backfilling, soil disposal, water treatment, and Site restoration is expected to last approximately one to two years. Cost for excavation assumes 45-ft depth to cover the approximately 17,000 ft^2 treatment area. The total project costs for excavation and off-site disposal is presented in **Appendix M** which includes project management (**Sheet M1**), excavation (**Sheet M3**), and post-remediation monitoring (**Sheet M5**). The estimated soil disposal cost assumes 50% of the soil to be disposed of as RCRA hazardous waste, and that the disposal and transportation costs for hazardous waste are approximately twice the amount of non-hazardous waste. The total cost including design and operation for excavation is approximately $18.8M for the approximately 17,000 ft^2 area. The cost of excavation is expected to increase in direct proportion with the volume of the treatment area.

11.2.7 Summary

The advantages and disadvantages of excavation and off-site disposal are summarized in the following:

Advantages:

- Effectively removes available COPC mass
- Short time frame

Disadvantages:

- Excavation in close proximity to Site building may jeopardize building integrity and complete source mass removal under the building is not possible without serious damage to surrounding structures (i.e., inflexible for expansion of treatment area)
- Disruption to Site operations with work area footprint
- Some portion of the source mass may be unintentionally left in place if pre-excavation investigations are not complete

- Costs increase proportionally to area (high increase in cost if area increases)
- Worker exposure to potential VOC releases may require a temporary sprung structure and vapor mitigation (i.e., negative pressure and on-site treatment)

11.3 In situ Soil Stabilization

In the implementation of this remedial alternative, source area soils would be stabilized in situ by in situ soil stabilization (ISSS). The underlying principle behind ISSS technology for soil remediation is the limitation of COPC flux from soil to groundwater. Predetermined addition rates of reagents(s) are mixed with impacted Site soils through one of several available mixing methods, resulting in a solidified monolith of increased strength and reduced permeability in comparison to native Site conditions. Groundwater/precipitation is thus diverted around the solidified treatment zone, limiting contact between clean water and impacted soils, thereby reducing leaching of COPCs to downgradient receptors. Chemically reactive admixtures and reagents can also be included to transform COPCs into less toxic or less mobile forms (stabilization). Typically, a treatability/laboratory mixing study is performed to determine a mix design to meet the treatment objectives prior to implementing ISSS. A variety of mix designs are completed varying additives to balance reduction in permeability and unconfined compressive strength (UCS).

ISSS implementation will be performed by mixing binding reagents into a column of soil utilizing auger mixing. This involves using a large crane or excavator-mounted drill to turn a special mixing tool into the soil while the fluid grout is pumped through the tool and mixed into the soil. The resulting material is generally a homogeneous mixture of soil and grout. The mixing tool will be selected by the Remedial Contractor and is anticipated to be a 6-ft-diameter auger attached at the end of a hollow shaft (Kelly Bar) that is suspended by a crane. To create continuous zones of treatment, the columns of mixed soil and cement are overlapped to provide continuity. This method could be supplemented by bucket mixing around obstacles/underground utilities where the augers would not otherwise achieve the needed solidification.

During the ISSS blending process, it is common for the targeted soils to bulk (increase in volume). This effect is more pronounced in clay-based soils and often requires the removal of a proportional amount of overlying soils via excavation to accommodate the change in soil volume and return the stabilized area to the initial grade. Soil expansion is estimated to be approximately 30% above the initial volume. Capping and/or grading will be utilized following treatment to minimize infiltration of surface water on the monolith. As part of this remedy a staging area is necessary to store materials and stage the soil for disposal that is part of the expansion amount. The operation is expected to occupy the area of the existing parking lot shown on **Figure 21**.

11.3.1 Short-term Effectiveness

ISSS would be effective in the short term by the immediate stabilization of the impacted soil identified as the source area. ISSS physically lowers the hydraulic permeability and decreases the mass with reagents in the defined area; as such the area would not provide mass flux to the groundwater system.

11.3.2 Long-term Effectiveness

Provided that the source is adequately delineated, ISSS effectively reduces and stabilizes source mass, hence eliminating the potential for concentration rebound in the future. In addition, source stabilization reduces mass flux from the source area to downgradient areas, allowing natural attenuation to minimize downgradient impacts and decreasing the time frame of overall Site cleanup.

11.3.3 Implementability

In addition to the health and safety concerns, the use of ISSS for source reduction at the Site has the potential to be technically challenging because of the existence of source mass at depths greater than 40 ft. ISSS may not be used to remove source mass under the building where current source mass is located due to height of equipment (approximately 20% of the potential footprint). Finally, relocation of underground utility lines in the treatment area would be required prior to ISSS.

11.3.4 Community Impact

ISSS is a disruptive process requiring a large area for equipment, soil staging, and equipment maneuvering. The operation would temporarily disrupt business at the Site for several months by taking up a significant part of the available parking as well as disrupting deliveries to the facility. In addition, the operation may pose physical and chemical hazards to the public because of the use of heavy equipment, the handling of potentially hazardous soil and groundwater, and generation of vapor and dust in close proximity to nearby business and residences. The bulking resulting from the ISSs will increase the volume of soil by approximately 30%. Given the Site constraints, it will be necessary to remove this soil from the Site, generating a large amount of truck traffic through the adjacent residential streets. Adequate health and safety planning and management are necessary to ensure safe excavation operation at the Site.

11.3.5 Sustainability

ISSS requires resources such as reagents (e.g., cement), potable water, and landfill space for impacted soil disposal. This alternative treats the majority of material in place, however a small percentage is relocated; health risks posed by exposure to impacted materials may affect communities living in the vicinity of hazardous waste landfills.

11.3.6 Time Frame and Cost

The remedial action process including design, ISSS, soil disposal, and Site restoration is expected to last approximately one to two years. Cost for ISSS assumes approximately 17,000 ft^2 treatment area. The estimated soil disposal cost assumes 80% of the overlying and predominantly clean soil to be disposed of as RCRA non-hazardous waste, and that the disposal and transportation costs for hazardous waste are approximately twice the amount of non-hazardous waste. The total project costs for ISSS are presented in **Appendix M** which includes project management (**Sheet M1**), implementation (**Sheet M4**), and post-remediation monitoring (**Sheet M5**). The total cost including design and operation for ISSS is approximately $7.3M for the approximately 17,000 ft^2 area. The cost of ISSS is expected to increase in direct proportion with the volume of the treatment area.

11.3.7 Summary

The advantages and disadvantages of ISSS are summarized in the following:

Advantages:

- Effectively stabilizes available COPC mass
- Short time frame

Disadvantages:

- ISSS in very close proximity to Site building may jeopardize building integrity and complete source mass removal under the building is not possible without serious damage to surrounding structures (i.e., inflexible for expansion of treatment area)
- Disruption to Site operations with work area footprint
- Some portion of the source mass may be unintentionally left in place if characterization is not complete
- Costs increase proportionally to area (moderate increase in cost if area increases)
- Worker exposure to potential VOC releases may require a temporary sprung structure and vapor mitigation (i.e. negative pressure and on-site treatment)

11.4 Preferred Removal Action Alternatives

Based on the foregoing source zone technology analysis and comparison, the following is a summary of the preferred removal action alternatives.

Western Source Zone				
Remedy	**Effectiveness**	**Implementability**	**Cost**	**Rating**
ISTR	High	Medium to High	Medium	High
Excavation	Medium	Low– ~20% of target mass is inaccessible due to slab left in place	High	Low
ISSS	Medium	Low– ~20% of target mass is inaccessible due to slab left in place	Medium	Medium

This analysis demonstrates that ISTR is the preferred and therefore recommended source zone technology for the western source. For the smaller source zone that underlies the Site building footprint to the east of the western source near SB-24, ISTR is similarly appropriate, provided however that during the design phase, and with further delineation of this smaller source following demolition of the structure, excavation may be substituted if implementation would reduce overall removal costs.

12 PERFORMANCE MONITORING PROGRAM

12.1 Monitored Natural Attenuation Program

MNA is proposed to address residual COPC (TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and VC) concentrations in groundwater following source treatment. A detailed MNA Assessment and Implementation Plan (MNA Plan) was developed in accordance with USEPA guidance documents (1998, 1999, 2004) and is included as **Appendix N**. The MNA program will evaluate concentrations of COPCs in groundwater to demonstrate that MNA can achieve the Performance Monitoring Objective of maintaining stable to decreasing shallow and deep plumes. Additionally, the MNA Plan provides a framework to mitigate any unacceptable impact to downgradient receptors and to demonstrate the efficacy of ICs and ECs put in place to protect potential receptors. MNA in groundwater at the Site will be evaluated using USEPA's tiered lines of evidence approach (USEPA 1999).

The MNA Plan has three phases over an estimated 10-year period: Assessment, Implementation, and Verification. Specifics of the Assessment Phase performance monitoring plan are provided in **Appendix N**. When it has been demonstrated in the 3-year Assessment Phase that natural processes will be capable of attaining the Performance Monitoring Objective, then MNA will be fully implemented. At that time an Implementation Phase performance monitoring plan will be designed to provide ongoing demonstration that the Performance Monitoring Objective is being achieved. The Implementation Phase is expected to last at least 5 years, and then will be extended as appropriate. Once MNA progress demonstrates achievement of the Performance Monitoring Objective, then the 2-year Verification Phase will begin. Criteria for success during these phases are described in greater detail in **Appendix N**.

In **Appendix N**, monitoring wells are assigned to the following performance monitoring groups: Treated Source Area, Plume Core, Plume Fringe, Side-gradient, Background/Upgradient, and Downgradient Sentinel. Performance criteria for the site-specific remediation objectives include:

- Maintenance of lateral plume delineation in both the shallow and deep intervals as defined by TCE concentrations less than or equal to 100 µg/L at Downgradient Sentinel monitoring wells. This concentration was selected as a decision point concentration for plume extent relative to 2018/2019 results presented on **Figures 16a** and **16b**.
- Stable to decreasing concentration trends for COPC at Plume Fringe monitoring wells.
- Stable to decreasing concentration trends for COPC at deep Treated Source Area and Plume Core monitoring wells.

The MNA Plan provides specific questions to evaluate MNA performance relative to these criteria and to determine contributing natural attenuation processes and remedy protectiveness for receptors. The MNA Plan describes data needed to address these questions and data quality objectives.

12.2 Vapor Intrusion Mitigation Operation & Maintenance

Spectrum Brands entered into an ASAOC (USEPA 2015) requiring investigation of off-site vapor intrusion concerns related to TCE including degradation by-products, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and

VC. Spectrum Brands contracted with ERM to for the implementation of the vapor intrusion investigation activities.

During July 2014, MDNR conducted indoor air investigations in area residences. Sub-slab, indoor air, and ambient air sampling was conducted. Two homes located north of the Site (406 and 504 Kohl Street) exceeded the residential indoor air and/or sub-slab vapor action levels in use at the time. USEPA installed mitigation systems in these two residential structures ERM subsequently conducted three additional vapor intrusion investigations at residences previously sampled or contacted by the USEPA in October 2016, March 2017, and June 2017. Action levels were exceeded in an additional home located north of the Site (404 Kohl Street). As a result, ERM on Spectrum's behalf installed a vapor mitigation system at that residence.

12.2.1 Summary of Existing Vapor Intrusion Mitigation Systems

A Summary table is provided in **Appendix O** of Residential Indoor Air, Sub-Slab Vapor, & Ambient Air Sampling. Detected Site-Related Volatile Organic Compounds (VOCs) for all sampling events are listed for the three residences.

12.2.1.1 406 Kohl Street (Location 114)

A sub-slab depressurization system was installed at 406 Kohl Street based on the results of indoor air sampling conducted by USEPA in July 2014. The system was installed by St. Louis Radon under the direction of USEPA in July 2014. Post mitigation indoor air samples collected in October 2016 and March 2017 were below the USEPA residential action level for TCE in indoor air of 2 $\mu g/m^3$. However, subsequent indoor air samples collected from the basement and the main floor in June of 2017 exceeded the action level for TCE. A comparison of sub-slab and indoor air data sets collected at this property indicates that the vapor intrusion pathway is incomplete since sub-slab concentrations during each paired sampling event were lower or equivalent to indoor air concentrations.

12.2.1.2 504 Kohl Street (Location 116)

A sub-slab depressurization system was installed at 504 Kohl Street based on the results of sub-slab sampling conducted by USEPA in July 2014. The system was installed by St. Louis Radon under the direction of USEPA in July 2014. Post mitigation sub-slab samples collected in October 2016, March 2017, and June 2017 continued to exceed the USEPA residential sub-slab action level of 67 $\mu g/m^3$. During each of these sampling events, indoor air collected from the basement and the main floor were below the USEPA residential action level for TCE in indoor air of 2 $\mu g/m^3$.

12.2.1.3 404 Kohl Street (Location 113)

A sub-slab depressurization system was installed at 404 Kohl Street based on the results of indoor air and sub-slab sampling conducted by ERM in March and June of 2017 where both the USEPA residential indoor air and sub-slab action levels for TCE were exceeded. The system was installed by St. Louis Radon under the direction of ERM during July 2017, and additional pathway sealing was conducted in December 2017. The system consists of one suction point installed in the basement. Polyvinyl chloride piping was installed from the suction point to an exterior mounted in-line fan (RadonAway RP-145) and continued up to discharge above the roof level. Vapor entry points were sealed including the installation of a sump lid, capping of an exposed draintile pipe located under the bathroom sink, and capping of an unused washer drain standpipe. Additionally, one-way valves (SureSeal®) were installed in two floor drains. Indoor air samples collected by ERM from both the basement and the main floor on December 27 through 28, 2017 were below the USEPA residential action level for TCE in indoor air of 2 μg/m^3. Additionally, differential pressure was measured at seven sub-slab vapor points. Although a negative differential pressure was not achieved at all locations, the indoor air results confirmed the effectiveness of the mitigation system.

12.2.2 Anticipated Vapor Intrusion Mitigation Operation and Maintenance Plan

To confirm continued effectiveness of the mitigation systems, annual inspections should be performed consisting of the following:

- Visual inspection of the system piping and pipe supports
- Visual inspection that any pathways through the foundation are sealed
- Measurement of system vacuum from the u-tube manometer and comparison to previous operating level
- Measurement of differential pressure across the slab and comparison to previous operating level
- If sub-slab vacuum influence is not demonstrated, or if otherwise warranted, collection of paired sub-slab and indoor air samples from the basement and main floor may be warranted.

An inspection form similar to that found in USEPA Region 5 Vapor Intrusion Guidebook (USEPA 2010), Appendix X may be used to complete the inspection. Any deficiencies identified would be corrected as soon as possible and vacuum measurements and indoor air sampling repeated as necessary. An operation and maintenance (O&M) plan for these systems will be prepared during the upcoming design phase, including conducting a Site visit, to further detail the system specifications and appropriate O&M inspections.

13 INVESTIGATIVE DERIVED WASTE SUMMARY

Investigative derived waste (IDW) was generated during each phase of the field work. The initial phase of work focused on source zone delineation in soil and was performed in late 2017 and early 2018. The second phase generally targeted groundwater and was completed in mid-2019. Characterization and disposal of IDW wastes was conducted per the EE/CA Work Plan.

On July 5, 2018, a letter was submitted to the USEPA which proposed that the Site COCs found in IDW are not a listed waste. In a letter dated August 1, 2018, the USEPA concurred with the non-listed determination and requested notification of the proposed receiving waste facility. This notification was submitted on December 24, 2018 and approved by the USEPA on January 29, 2019. The referenced correspondence and state waste approvals are included in **Appendix P**.

During the first phase of work, composite soil samples were collected at a rate of one per five drums or less and grab water samples were collected from each drum of water. Thirty-eight (38) total drums were generated as follows: twenty-nine (29) non-hazardous soil, four (4) non-hazardous water, and five (5) characteristically hazardous water. IDW analytical laboratory reports are included in **Appendix F** and IDW waste summary tables are included in **Appendix P**. All 38 drums were transported for disposal on March 1, 2019 by an Environmental Logistics Inc., an approved hazardous waste transporter. Non-hazardous soil and water drums were disposed of at the Waste Management Johnson County (KS) Landfill. Characteristically Hazardous waste was transported to HazMat Inc. in Kansas City, Missouri.

Fifteen (15) drums of IDW were generated during the second phase of work. Soil drums were sampled at a rate of one per five or less, and each drum of water was sampled. Of the 15 drums, twelve (12) drums were classified as non-hazardous soil and three (3) drums were classified as non-hazardous water. IDW analytical laboratory reports are included in **Appendix F** and IDW waste summary tables are included in **Appendix P**. All 15 drums were picked up on November 8, 2019 by a Waste Management contracted transporter and hauled to their Johnson County (KS) Landfill for disposal.

Due to the generation of hazardous waste in the first phase of work, additional regulatory notifications and reporting were required. In order to comply with the MDNR Hazardous Waste Program, a *Notification of Regulated Waste Activity* was submitted to the MDNR on November 15, 2018 (**Appendix P**). This was followed by a *Generator's Hazardous Waste Summary Report* submitted on October 3, 2019. Due to the quantity of waste generated in 2019, a *Biennial Hazardous Waste Report* was also submitted to the MDNR on February 2, 2020 and accepted on March 3, 2020. Due to a programming error, the report was submitted with an incomplete field. On June 6, 2020, the report was rejected due to the incomplete field. Revisions were made to the report and it was resubmitted on June 16, 2020. Hazardous waste regulatory submissions are included in **Appendix P**.

14 RECOMMENDATIONS

Based on current Site conditions with future implementation of ICs through deed restrictions and ECs:

- Requires removal of the existing on-site buildings with the concrete slabs remaining in place,
- Prohibits construction of new structures,
- Prohibits all construction or invasive activity, unless approved by MDNR and/or USEPA and conducted under guidance of a soil management and HASP,
- Prohibits using on-site groundwater as a drinking water source.

Review of the effectiveness, implementability, and cost for each of the presumptive remedies are:

Western Source Zone				
Remedy	**Effectiveness**	**Implementability**	**Cost**	**Rating**
ISTR	High	Medium to High	Medium	High
Excavation	Medium	Low– ~20% of target mass is inaccessible due to slab left in place	High	Low
ISSS	Medium	Low– ~20% of target mass is inaccessible due to slab left in place	Medium	Medium

Residual COPCs remaining on-site following source removal will be addressed through the implementation of ICs per deed restrictions. ISTR for the western source area and ISTR or excavation as appropriate for the smaller source area beneath the existing facility building, combined with the MNA program, ICs and ECs, will address the objectives of the ASAOC.

15 PROJECT TIMELINE

Revisions per the USEPA comments to this report are provided herein.

If USEPA has further comments or proposed changes warranting submission of a revised EE/CA Report, then preparation and submittal of the final EE/CA report is anticipated to occur in accordance with the following timelines:

- Finalization of the EE/CA to occur 30 days following receipt of USEPA's comments on this submission.
- The schedule for preparation and submittal of the final version of this report is exclusive of regulatory review and comment periods.

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TABLES

ARCADIS

Table 1. Well Construction Details
Toastmaster Macon Site, Macon, MO

Monitoring Well Location ID	Date Installed	Well Diameter (inches)	Type of Well Materials FG-PVC-SS	Well Cover Detail (AG/F)	Top of Casing Elevation + (feet aMSL)	Ground Elevation + (feet aMSL)	Record Total Depth (feet btoc)	Bottom of Well Elevation (feet aMSL)	Record Screen Length (feet)	Top of Screen Elevation (feet aMSL)	Screen Interval * (feet btoc)	Screen Slot Size (inches)	Survey North +	Survey East +
Shallow Aquifer Zone Wells (Till-Upper with T.D. elevation between 834 - 813)														
MW-01	1/20/1992	2.0	FG	F	862.70	862.87	28.50	834.20	15.00	849.20	13.2-28.2	0.010	1418719.7	1649901.7
MW-02 (3)	1/20/1992	4.0	FG	F	865.83	866.01	48.50	817.33	20.00	837.33	28.2-48.2	0.010	1418749.7	1649379.0
MW-05 (4)	1/21/1992	4.0	FG	F	862.19	862.41	35.00	827.19	15.00	842.19	19.7-34.7	0.010	1418775.8	1649298.0
MW-07 (6)	1/23/1992	2.0	SS Screen	F	854.37	854.63	35.00	819.37	10.00	829.37	24.7-34.7	0.010	1418935.0	1649253.5
MW-09 (8)	1/23/1992	2.0	FG	F	865.40	865.68	35.00	830.40	10.00	840.40	24.7-34.7	0.010	1418565.4	1649377.7
MW-11 (12)	12/14/1995	2.0	PVC Sch 40	AG	865.72	862.67	32.40	833.32	10.00	843.32	22.1-32.1	0.010	1418388.4	1649949.9
MW-13 (14)	12/15/1995	2.0	PVC Sch 40	AG	843.01	839.76	20.30	822.71	10.00	832.71	10.0-20.0	0.010	1419109.5	1649045.2
MW-17 (10)	12/17/1995	2.0	PVC Sch 40	AG	847.12	844.75	27.80	819.32	10.00	829.32	17.5-27.5	0.010	1418782.4	1649109.7
MW-19 (18)	12/20/1995	2.0	PVC Sch 40	AG	862.06	859.75	32.80	829.26	20.00	849.26	12.5-32.5	0.010	1418674.6	1649972.6
MW-21 (20)	12/21/1995	2.0	PVC Sch 40	AG	866.18	864.12	31.90	834.28	20.00	854.28	11.6-31.6	0.010	1418691.2	1649782.1
MW-23 (22)	12/26/1995	4.0	PVC Sch 40	AG	857.54	855.49	33.50	824.04	18.00	842.04	15.2-33.2	0.010	1418843.0	1649242.8
MW-31 (30)	6/8/2011	2.0	PVC Sch 40	AG	855.80	852.72	43.06	812.74	10.00	822.74	32.76-42.76		1418675.4	1648968.6
MW-32 (33)	2/21/2018	2.0	PVC Sch 40	F	862.98	863.30	25.00	837.98	10.00	847.98	15.0-25.0	0.010	1418762.0	1649821.0
MW-34	2/21/2018	2.0	PVC Sch 40	AG	870.24	867.10	30.00	840.24	10.00	850.24	20.0-30.0	0.010	1419015.0	1649674.0
MW-35	7/12/2019	2.0	PVC Sch 40	F	865.84	866.24	25.40	840.44	20.00	860.44	5.4-25.4	0.010	1419107.7	1649623.5
MW-36	7/10/2019	2.0	PVC Sch 40	F	862.35	862.75	25.60	836.75	20.00	856.75	5.6-25.6	0.010	1419153.1	1649424.3
MW-37	7/10/2019	2.0	PVC Sch 40	F	859.13	859.65	25.50	833.63	20.00	853.63	5.5-25.5	0.010	1419159.8	1649350.8
Deep Aquifer Zone Wells (Till-Lower with T.D. elevation between 810 - 790)														
MW-03	1/24/1992	2.0	SS	F	865.90	866.05	67.00	798.90	5.00	803.90	61.7-66.7	0.010	1418747.4	1649378.9
MW-04	1/21/1992	2.0	FG	F	862.26	862.53	58.50	803.76	5.00	808.76	53.2-58.2	0.010	1418775.4	1649300.8
MW-06	1/22/1992	2.0	FG	F	854.50	854.81	45.00	809.50	5.00	814.50	39.7-44.7	0.010	1418935.2	1649256.5
MW-08	1/22/1992	2.0	FG	F	865.35	865.65	68.50	796.85	5.00	801.85	63.2-68.2	0.010	1418568.7	1649377.9
MW-10	1/23/1992	2.0	SS Screen	F/BG	*845.29*	845.63	43.50	801.79	5.00	806.79	38.2-43.2	0.010	1418774.3	1649137.4
MW-12	12/13/1995	2.0	PVC Sch 40	AG	865.72	862.72	70.30	795.42	10.00	805.42	60.0-70.0	0.010	1418388.0	1649932.0
MW-14	12/14/1995	2.0	PVC Sch 40	AG	842.74	839.88	42.99	799.75	10.00	809.75	32.69-42.69	0.010	1419107.9	1649067.0
MW-15	12/18/1995	2.0	PVC Sch 40	AG	846.63	844.68	37.50	809.13	10.00	819.13	27.2-37.2	0.010	1418912.1	1649017.7
MW-16	12/18/1995	2.0	PVC Sch 40	AG	846.39	844.86	50.30	796.09	5.00	801.09	45.0-50.0	0.010	1418898.4	1649016.1
MW-18	12/20/1995	2.0	PVC Sch 40	F	*859.63*	*859.84*	55.51	804.12	10.00	814.12	45.2-55.2	0.010	1418666.9	1649972.6
MW-20	12/21/1995	2.0	PVC Sch 40	AG	866.10	864.15	57.80	808.30	5.00	813.30	52.5-57.5	0.010	1418708.4	1649782.2
MW-22	12/22/1995	4.0	PVC Sch 40	AG	857.59	855.12	51.60	805.99	10.00	815.99	41.3-51.3	0.010	1418859.2	1649243.3
MW-25	7/12/1999	2.0	PVC Sch 80	AG	864.19	861.34	73.75	790.44	10.00	800.44	63.45-73.45	0.010	1418647.6	1649266.7
MW-26	7/8/1999	2.0	PVC Sch 80	AG	858.43	855.49	64.75	793.68	7.50	801.18	56.95-64.45	0.010	1419008.8	1649291.1
MW-27	7/8/1999	2.0	PVC Sch 80	AG	848.95	846.05	54.75	794.20	10.00	804.20	44.45-54.45	0.010	1418817.2	1649015.0
MW-28	7/6/1999	2.0	PVC Sch 40	AG	847.24	844.29	37.50	809.74	5.00	814.74	32.2-37.2	0.010	1419117.7	1649170.1
MW-29	7/6/1999	2.0	PVC Sch 40	AG	846.49	843.49	49.75	796.74	5.00	801.74	44.45-49.45	0.010	1419112.5	1649160.7
MW-30	6/9/2011	2.0	PVC Sch 40	AG	855.50	852.38	63.01	792.49	10.00	802.49	52.71-62.71	0.010	1418669.7	1648974.5
MW-33	2/22/2018	2.0	PVC Sch 40	F	862.98	863.31	50.00	812.98	10.00	822.98	40.0-50.0	0.010	1418669.7	1648974.5

Notes:
MW-02 (3) = MW-02 (shallow well) is paired with MW-03 (deep well)
(feet aMSL) = Feet Above Mean Sea Level   AG = above ground completion
NC = not collected   F = flushmount completion   btoc = below top of casing
* Record information from Enviro-CO, LLC
+ Survey data for site wells obtained in Sept 2011 from Schaefer Surveying
+ Additional survey data for modified MW-10 and new MWs obtained in February 2018 from Smith, Klein & Warren, Macon, MO
+ Survey data for site wells obtained in July 2019 from McClure Engineering Company, Columbia, MO
845.29 MW-10 Former TOC Elevation was 843.52 ft aMSL prior to modification of well riser and cover

MW-25 - Encountered FG sandstone at total depth - 69.5 ft bgs (791.8 ft amsl)
MW-26 - Encountered shale at total depth - 62 ft bgs (793.5 ft amsl)
MW-27 - Encountered bedrock at total depth - 52 ft bgs (794.1 ft amsl)
MW-10 riser was extended and flush mount in manway replaced with an aboveground protector (2/21/18)

Table 2. Summary of Completed Soil Borings - EE/CA Investigation
Toastmaster Macon Site - Macon, Missouri

Site Area	SB Location	APS*	Whole Core Soil	Total Depth	Analytical Water Samples	Analytical Saturated Soil Samples	Surface Condition
Northern Property Boundary	SB01	X	X	42.7	No	Yes	Ground
	SB02	X	X	36.9	No	Yes	Ground
	SB04	X	X	45.2	Yes	Yes	Ground
	SB05	X	X	40.8	No	Yes	Ground
	SB06	X	X	39.3	Yes	Yes	Ground
	SB08	X		40.6	No		Ground
	SB09	X		35.9	No		Ground
	SB41		X	25	No	Yes	Ground
	MW-35		X	28.5	No		Ground
	MW-36		X	29.5	No		Ground
	MW-37		X	30	No		Ground
Western Side of Site	SB03		X	65	Yes	Yes	Asphalt
	SB07		X	66.9	Yes	Yes	Asphalt
	SB11		X	58.3	Yes	Yes	Asphalt
	SB15	X	X	37.2 (APS)	Yes	Yes	Asphalt
				50.8 (Soil)			Asphalt
	SB17		X	52.7	No	Yes	Asphalt
	SB18		X	45	No	Yes	Asphalt
	SB19		X	65	No	Yes	Asphalt
	SB34		X	58.5	No	Yes	Asphalt
	SB35		X	53.3	Yes	Yes	Asphalt
	SB36		X	48.3	No	Yes	Asphalt
	SB40		X	53.3	Yes	Yes	Asphalt
	SB42		X	40.8	Yes	Yes	Ground
	SB43		X	6	No	Yes	Ground
	SB48		X	53.2	No	Yes	Asphalt
	SB49		X	50	No	Yes	Asphalt
	SB50		X	48.5	No	Yes	Asphalt
Building Interior	SB16		X	53.5	No	Yes	Concrete
	SB20		X	39.5	No	Yes	Concrete
	SB21		X	36	No	Yes	Concrete
	SB23		X	33	No	Yes	Concrete
	SB24		X	37.5	Yes	Yes	Concrete
	SB25		X	35.5	No	Yes	Concrete
	SB30		X	27	No	Yes	Concrete
	SB31		X	31	No	Yes	Concrete
	SB32		X	29	No	Yes	Concrete
	SB33		X	30	No	Yes	Concrete
	SB38		X	25	No	Yes	Concrete
	SB39		X	22.5	No	Yes	Concrete
	SB44		X	15	No	Yes	Concrete
	SB45		X	15	No	Yes	Concrete
	SB46		X	20	No	Yes	Concrete
	SB47		X	15	No	Yes	Concrete
Eastern Side of Site	SB10	X	X	31.5 (APS)	No	Yes	Ground
				25.0 (Soil)			
	SB12	X	X	29.5 (APS)	Yes	Yes	Concrete
				53.4 (Soil)			
	SB13	X	X	49.3	Yes	Yes	Gravel
	SB14	X	X	34.8 (APS)	No	Yes	Asphalt
				58.3 (Soil)			
	SB22		X	50.6	Yes	Yes	Asphalt
	SB26		X	30	No	Yes	Gravel
	SB27		X	27	Yes	Yes	Concrete
	SB28 (2017)		X	0 - 27.5	Yes	Yes	Concrete
	SB28 (2018)		X	27 - 50	No	Yes	Concrete
	SB29		X	53.4	Yes	Yes	Concrete
	SB37		X	25	No	Yes	Gravel

APS* - Waterloo APS relative permeability and electrical conductivity profiling tool

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB01	SB01-0.0-2.0-20171101	11/1/2017	N	0.75	0-2	< 23.7 U	< 8.20 U	< 43.7 U	< 13.2 U	< 34.6 U
SB01A	SB01A-6.0-20171116	11/16/2017	N	0.75	6	< 18.9 U	< 6.53 U	< 34.8 U	< 10.5 U	< 27.6 U
SB01A	SB01A-11.0-20171116	11/16/2017	N	0.75	11	< 20.6 U	< 7.13 U	< 38.0 U	< 11.5 U	< 30.1 U
SB01A	SB01A-16.0-20171116	11/16/2017	N	0.75	16	< 18.8 U	< 6.50 U	< 34.6 U	< 10.5 U	< 27.4 U
SB01A	SB01A-21.5-20171116	11/16/2017	N	0.75	21.5	< 16.6 U	< 5.76 U	< 30.7 U	< 9.29 U	< 24.3 UJ
SB01A	SB01A-22.0-20171116	11/16/2017	N	0.75	22	< 18.2 U	< 6.30 U	< 33.6 U	< 10.2 U	< 26.6 U
SB01A	SB01A-26.0-20171116	11/16/2017	N	0.75	26	< 18.5 U	< 6.40 U	< 34.1 U	< 10.3 U	< 27.0 U
SB01A	SBDUP-01-20171116	11/16/2017	FD	0.75	26	< 19.4 U	< 6.70 U	< 35.7 U	< 10.8 U	< 28.3 U
SB01A	SB01A-28.3-20171116	11/16/2017	N	0.75	28.3	< 18.8 U	< 6.51 U	< 34.7 U	< 10.5 U	< 27.5 U
SB02	SB02-0.0-2.0-20171101	11/1/2017	N	5.46	0-2	< 24.5 U	< 8.47 U	< 45.2 U	< 13.6 U	< 35.8 U
SB02A	SB02A-4.5-20171117	11/17/2017	N	5.46	4.5	< 21.5 U	< 7.45 U	< 39.7 U	< 12.0 U	< 31.5 U
SB02A	SB02A-9.7-20171117	11/17/2017	N	5.46	9.7	< 19.1 U	< 6.60 U	< 35.2 U	< 10.6 U	< 27.9 U
SB02A	SB02A-14.5-20171117	11/17/2017	N	5.46	14.5	< 19.3 U	< 6.67 U	< 35.5 U	< 10.7 U	< 28.1 U
SB02A	SB02A-19.5-20171117	11/17/2017	N	5.46	19.5	< 18.9 U	< 6.53 U	< 34.8 U	< 10.5 U	< 27.6 UJ
SB02A	SB02A-24.5-20171117	11/17/2017	N	5.46	24.5	< 17.3 U	< 6.00 U	< 32.0 U	< 9.66 U	< 25.3 U
SB02A	SBDUP-01-20171117	11/17/2017	FD	5.46	24.5	< 17.6 U	< 6.08 U	< 32.4 U	< 9.79 U	< 25.7 U
SB02A	SB02A-27.3-20171117	11/17/2017	N	5.46	27.3	< 17.7 U	< 6.14 U	< 32.7 U	< 9.89 U	< 25.9 U
SB02A	SB02A-28.7-20171117	11/17/2017	N	5.46	28.7	< 17.6 U	< 6.10 U	< 32.5 U	< 9.82 U	< 25.7 U
SB03A	SB03A-0.5-2-20171105	11/5/2017	N	3.68	0.5-2	< 20.4 U	< 7.06 U	< 37.6 U	< 11.4 U	< 29.8 U
SB03	SB03-1.5-20171101	11/1/2017	N	3.68	1.5	< 22.8 U	< 7.88 U	< 42.0 U	< 12.7 U	< 33.3 U
SB03A	SB03A-5.8-2-20171105	11/5/2017	N	3.68	5.8	< 23.7 U	**2920**	**726**	< 13.2 U	< 34.7 U
SB03	SB03-7.5-20171102	11/2/2017	N	3.68	7.5	**102**	**9610**	**1380**	< 10.9 U	**125**
SB03	SB03-11-20171102	11/2/2017	N	3.68	11	**156**	**13300**	**2530**	**10.9 J**	**144**
SB03	SB03-17.5-20171102	11/2/2017	N	3.68	17.5	**46.1**	**12500**	**2510**	**11.8 J**	**284**
SB03	SB03-22-20171102	11/2/2017	N	3.68	22	**26.7 J**	**100000**	**202**	< 14.1 U	< 36.9 U
SB03	SB03-25-20171102	11/2/2017	N	3.68	25	**38.0 J**	**148000**	**109**	< 13.8 U	< 36.1 U
SB03	SB03-27.5-20171102	11/2/2017	N	3.68	27.5	**23.6 J**	**116000**	**76.0**	< 10.9 U	< 28.4 U
SB03	SB03-30.5-20171102	11/2/2017	N	3.68	30.5	**23.4 J**	**74100**	**47.2**	< 11.9 U	< 31.2 U
SB03	SB03-32-20171102	11/2/2017	N	3.68	32	< 27.6 U	**44800**	< 50.9 U	< 15.4 U	< 40.3 U
SB03	SB03-36.5-20171102	11/2/2017	N	3.68	36.5	< 20.8 U	**4570**	< 38.3 U	< 11.6 U	< 30.3 U
SB03	SB03-42.5-20171102	11/2/2017	N	3.68	42.5	< 22.5 U	**336**	< 41.5 U	< 12.5 U	< 32.9 U
SB03	SB03-47.5-20171102	11/2/2017	N	3.68	47.5	< 23.0 U	< 7.95 U	< 42.4 U	< 12.8 U	< 33.6 U
SB03	SB03-52.5-20171102	11/2/2017	N	3.68	52.5	< 26.1 U	< 9.03 U	< 48.2 U	< 14.5 U	< 38.1 U
SB03	SBDUP-01-20171102	11/2/2017	FD	3.68	52.5	< 20.3 U	< 7.03 U	< 37.5 U	< 11.3 U	< 29.7 U
SB03	SBDUP-02-20171102	11/2/2017	FD	3.68	52.5	< 21.8 U	< 7.56 U	< 40.3 U	< 12.2 U	< 31.9 U
SB03	SB03-57-20171102	11/2/2017	N	3.68	57	< 20.0 U	< 6.91 U	< 36.9 U	< 11.1 U	< 29.2 U
SB03	SB03-60.5-20171102	11/2/2017	N	3.68	60.5	< 20.9 U	< 7.25 U	< 38.6 U	< 11.7 U	< 30.6 U
SB03	SB03-61.3-20171102	11/2/2017	N	3.68	61.3	< 21.4 U	< 7.39 U	< 39.4 U	< 11.9 U	< 31.2 U

Notes are presented on page 17

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB03	SB03-62-20171102	11/2/2017	N	3.68	62	< 21.8 U	< 7.56 U	< 40.3 U	< 12.2 U	< 31.9 U
SB03	SB03-62.5-20171102	11/2/2017	N	3.68	62.5	< 26.4 U	**13.2 J**	< 48.8 U	< 14.7 U	< 38.6 U
SB03	SB03-65-20171102	11/2/2017	N	3.68	65	< 24.9 U	< 8.62 U	< 46.0 U	< 13.9 U	< 36.4 U
SB04	SB04-0.0-2.0-20171102	11/2/2017	N	5.46	0-2	< 21.7 U	< 7.50 U	< 40.0 U	< 12.1 U	< 31.6 U
SB04A	SB04A-10.0-20171117	11/17/2017	N	5.46	10	< 17.3 U	< 6.01 U	< 32.0 U	< 9.68 U	< 25.4 UJ
SB04A	SB04A-15.0-20171117	11/17/2017	N	5.46	15	< 21.0 U	< 7.27 U	< 38.8 U	< 11.7 U	< 30.7 U
SB04A	SBDUP-02-20171117	11/17/2017	FD	5.46	15	< 20.2 U	< 7.00 U	< 37.3 U	< 11.3 U	< 29.6 U
SB04A	SB04A-20.0-20171117	11/17/2017	N	5.46	20	< 18.2 U	< 6.30 U	< 33.6 U	< 10.1 U	< 26.6 U
SB04A	SB04A-21.4-20171117	11/17/2017	N	5.46	21.4	< 22.8 U	< 7.88 U	< 42.0 U	< 12.7 U	< 33.3 U
SB04A	SB04A-22.0-20171117	11/17/2017	N	5.46	22	< 24.8 U	< 8.58 U	< 45.7 U	< 13.8 U	< 36.2 U
SB04B	SB04B-23.0-20171117	11/17/2017	N	5.46	23	< 20.9 U	< 7.23 U	< 38.5 U	< 11.6 U	< 30.5 U
SB04B	SB04B-23.3-20171117	11/17/2017	N	5.46	23.3	< 19.3 U	< 6.69 U	< 35.7 U	< 10.8 U	< 28.2 U
SB04B	SB04B-24.0-20171117	11/17/2017	N	5.46	24	< 22.3 U	< 7.71 U	< 41.1 U	< 12.4 U	< 32.6 U
SB04B	SB04B-24.5-20171117	11/17/2017	N	5.46	24.5	< 21.3 U	**13.9 J**	< 39.4 U	< 11.9 U	< 31.2 U
SB04B	SB04B-25.0-20171117	11/17/2017	N	5.46	25	< 17.6 U	**13.2 J**	< 32.5 U	< 9.81 U	< 25.7 U
SB04C	SB04C-30.0-20171117	11/17/2017	N	5.46	30	< 17.9 U	< 6.20 U	< 33.0 U	< 9.98 U	< 26.2 U
SB04C	SB04C-35.0-20171117	11/17/2017	N	5.46	35	< 18.1 U	< 6.28 U	< 33.5 U	< 10.1 U	< 26.5 U
SB04C	SB04C-40.0-20171117	11/17/2017	N	5.46	40	< 18.7 U	< 6.49 U	< 34.6 U	< 10.4 U	< 27.4 U
SB05	SB05-0.0-2.0-20171102	11/2/2017	N	5.46	0-2	< 25.8 U	< 8.93 U	< 47.6 U	< 14.4 U	< 37.7 U
SB05A	SB05A-5.0-20171117	11/17/2017	N	5.46	5	< 22.7 U	< 7.86 U	< 41.9 U	< 12.7 U	< 33.2 U
SB05A	SB05A-9.0-20171117	11/17/2017	N	5.46	9	< 22.3 U	< 7.71 U	< 41.1 U	< 12.4 U	< 32.5 U
SB05A	SB05A-14.5-20171117	11/17/2017	N	5.46	14.5	< 19.3 U	< 6.67 U	< 35.6 U	< 10.8 U	< 28.2 U
SB05A	SB05A-19.0-20171117	11/17/2017	N	5.46	19	< 19.1 U	< 6.63 U	< 35.3 U	< 10.7 U	< 28.0 U
SB05A	SB05A-24.5-20171117	11/17/2017	N	5.46	24.5	< 17.9 U	< 6.20 U	< 33.0 U	< 9.98 U	< 26.2 U
SB05A	SB05A-29.5-20171117	11/17/2017	N	5.46	29.5	< 19.2 U	< 6.65 U	< 35.5 U	< 10.7 U	< 28.1 U
SB06	SB06-0.5-2.0-20171102	11/2/2017	N	5.46	0.5-2	< 20.7 U	< 7.16 U	< 38.2 U	< 11.5 U	< 30.2 U
SB06A	SB06A-10.0-20171116	11/16/2017	N	5.46	10	< 21.5 U	< 7.45 U	< 39.7 U	< 12.0 U	< 31.5 U
SB06A	SB06A-15.0-20171116	11/16/2017	N	5.46	15	< 18.1 U	< 6.25 U	< 33.3 U	< 10.1 U	< 26.4 U
SB06A	SB06A-20.0-20171116	11/16/2017	N	5.46	20	< 18.7 U	< 6.47 U	< 34.5 U	< 10.4 U	< 27.3 UJ
SB06A	SB06A-25.0-20171116	11/16/2017	N	5.46	25	< 17.5 U	< 6.06 U	< 32.3 U	< 9.77 U	< 25.6 U
SB06A	SBDUP-02-20171116	11/16/2017	FD	5.46	25	< 18.8 U	< 6.50 U	< 34.7 U	< 10.5 U	< 27.4 U
SB06A	SB06A-26.0-20171116	11/16/2017	N	5.46	26	< 25.7 U	< 8.90 U	< 47.5 U	< 14.3 U	< 37.6 U
SB06A	SB06A-30.0-20171116	11/16/2017	N	5.46	30	< 20.2 U	< 6.99 U	< 37.3 U	< 11.3 U	< 29.5 U
SB06A	SB06A-35.0-20171116	11/16/2017	N	5.46	35	< 17.4 U	< 6.02 U	< 32.1 U	< 9.71 U	< 25.4 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB06A	SB06A-40.0-20171116	11/16/2017	N	5.46	40	< 18.6 U	< 6.43 U	< 34.3 U	< 10.4 U	< 27.1 U
SB06A	SB06A-45.0-20171116	11/16/2017	N	5.46	45	< 20.0 U	< 6.93 U	< 37.0 U	< 11.2 U	< 29.3 U
SB06A	SB06A-50.0-20171116	11/16/2017	N	5.46	50	< 22.2 U	< 7.68 U	< 41.0 U	< 12.4 U	< 32.4 UJ
SB07	SB07-1.5-2-20171103	11/3/2017	N	3.68	1.5-2	< 26.1 U	< 9.04 U	< 48.2 U	< 14.6 U	< 38.2 U
SB07	SB07-6.5-20171103	11/3/2017	N	3.68	6.5	**147**	**7960**	**3440**	**20.1 J**	**314**
SB07	SB07-12.5-20171103	11/3/2017	N	3.68	12.5	**191**	**10700**	**2440**	**16.8 J**	**389**
SB07	SB07-16-20171103	11/3/2017	N	3.68	16	**291**	**25600**	**7400**	**53.8**	**1090**
SB07	SBDUP-01-20171103	11/3/2017	FD	3.68	16	**325**	**26000**	**8390**	**64.3**	**1580**
SB07	SB07-19-20171103	11/3/2017	N	3.68	19	**105**	**36500**	**4080**	**25.1 J**	**632**
SB07	SB07-21.5-20171103	11/3/2017	N	3.68	21.5	< 616 U	**110000**	**2620**	**23.7 J**	**395**
SB07	SB07-23-20171103	11/3/2017	N	3.68	23	**87.0**	**144000**	**2160**	**21.6 J**	**329**
SB07	SB07-25.5-20171103	11/3/2017	N	3.68	25.5	**67.7**	**198000**	**1520**	**15.8 J**	**202**
SB07	SB07-29.5-20171103	11/3/2017	N	3.68	29.3	**34.6 J**	**212000**	**364**	< 10.9 U	< 28.6 U
SB07	SB07-32.5-20171103	11/3/2017	N	3.68	32.5	**29.2 J**	**79700**	**87.3**	< 13.3 U	< 34.7 U
SB07	SB07-34-20171103	11/3/2017	N	3.68	34	< 22.3 U	**35900**	< 41.2 U	< 12.5 U	< 32.6 U
SB07	SB07-39.5-20171103	11/3/2017	N	3.68	39.5	< 19.6 U	**1290**	< 36.2 U	< 10.9 U	< 28.7 U
SB07	SB07-40-20171103	11/3/2017	N	3.68	40	< 18.7 U	**826**	< 34.5 U	< 10.4 U	< 27.3 U
SB07	SB07-41-20171103	11/3/2017	N	3.68	41	< 20.7 U	**467**	< 38.3 U	< 11.6 U	< 30.3 U
SB07	SB07-42.8-20171103	11/3/2017	N	3.68	42.8	< 27.9 U	**65.6**	< 51.6 U	< 15.6 U	< 40.8 U
SB07	SB07-44-20171103	11/3/2017	N	3.68	44	< 20.7 U	**55.8**	< 38.3 U	< 11.6 U	< 30.3 U
SB07	SB07-49-20171103	11/3/2017	N	3.68	49	< 21.1 U	< 7.29 U	< 38.9 U	< 11.7 U	< 30.8 U
SB07	SB07-54-20171103	11/3/2017	N	3.68	54	< 22.5 UJ	< 7.80 UJ	< 41.6 UJ	< 12.6 UJ	< 32.9 UJ
SB07	SB07-59-20171103	11/3/2017	N	3.68	59	< 29.7 U	< 10.3 U	< 54.8 U	< 16.6 U	< 43.4 U
SB07	SB07-63.5-20171103	11/3/2017	N	3.68	63.5	< 21.9 U	< 7.58 U	< 40.4 U	< 12.2 U	< 32.0 U
SB07	SB07-65-20171103	11/3/2017	N	3.68	65	< 22.5 U	< 7.80 U	< 41.6 U	< 12.6 U	< 33.0 U
SB07	SB07-66.8-20171103	11/3/2017	N	3.68	66.8	< 23.0 U	< 7.98 U	< 42.5 U	< 12.8 U	< 33.7 U
SB08	SB08-0.5-2.0-20171103	11/3/2017	N	5.46	0.5-2	< 22.8 U	< 7.88 U	< 42.0 U	< 12.7 U	< 33.3 U
SB09	SB09-0.5-2.0-20171103	11/3/2017	N	5.46	0.5-2	< 23.2 U	< 8.03 U	< 42.8 U	< 12.9 U	< 33.9 U
SB10	SB10-0.5-2.0-20171103	11/3/2017	N	4.05	0.5-2	< 19.0 U	< 6.57 U	< 35.1 U	< 10.6 U	< 27.8 U
SB10A	SB10A-6.5-20171128	11/28/2017	N	4.05	6.5	< 20.2 U	< 6.98 U	< 37.2 U	< 11.2 U	< 29.5 U
SB10A	SB10A-9.0-20171128	11/28/2017	N	4.05	9	< 16.1 U	< 5.57 U	< 29.7 U	< 8.97 U	< 23.5 U
SB10A	SB10A-14.0-20171128	11/28/2017	N	4.05	14	< 17.3 U	< 5.99 U	< 31.9 U	< 9.65 U	< 25.3 U
SB10A	SB10A-19.0-20171128	11/28/2017	N	4.05	19	< 16.5 U	< 5.72 U	< 30.5 U	< 9.22 U	< 24.2 U
SB10A	SB10A-24.0-20171128	11/28/2017	N	4.05	24	< 19.2 U	< 6.63 U	< 35.4 U	< 10.7 U	< 28.0 U
SB10A	SBDUP-03-20171128	11/28/2017	FD	4.05	24	< 17.4 U	< 6.03 U	< 32.1 U	< 9.71 U	< 25.5 U
SB11	SB11-0.5-2-20171104	11/4/2017	N	3.68	0.5-2	**57.1**	**42.9 J**	< 45.7 U	< 13.8 U	< 36.2 U
SB11	SB11-5.5-6-20171104	11/4/2017	N	3.68	5.5-6	< 19.8 U	< 6.85 U	**781**	**23.2 J**	**454**
SB11	SB11-7-20171104	11/4/2017	N	3.68	7	< 22.1 U	**3410**	**8000**	**172**	**1530**

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB11	SB11-9-20171104	11/4/2017	N	3.68	9	< 19.4 U	**16900**	**22600**	**334**	**4760**
SB11	SB11-17.5-20171104	11/4/2017	N	3.68	17.5	**248**	**82700**	**25400**	**404**	**7120**
SB11	SB11-21.5-20171104	11/4/2017	N	3.68	21.5	< 2040 U	**179000**	< 3760 U	< 1140 U	< 2980 U
SB11	SB11-23.5-20171104	11/4/2017	N	3.68	23.5	< 2210 U	**237000**	< 4070 U	< 1230 U	< 3230 U
SB11	SB11-25-20171104	11/4/2017	N	3.68	25	< 2050 U	**1230000**	< 3780 U	< 1140 U	< 3000 U
SB11	SB11-27-20171104	11/4/2017	N	3.68	27	< 2050 U	**237000**	< 3790 U	< 1150 U	< 3000 U
SB11	SB11-30-20171104	11/4/2017	N	3.68	30	< 1810 U	**197000**	< 3340 U	< 1010 U	< 2640 U
SB11	SB11-31.5-20171104	11/4/2017	N	3.68	31.5	< 1920 U	**257000**	< 3550 U	< 1070 U	< 2810 U
SB11	SB11-35-20171104	11/4/2017	N	3.68	35	< 2590 U	**163000**	< 4780 U	< 1450 U	< 3790 U
SB11	SB11-37-20171104	11/4/2017	N	3.68	37	**103**	**93000**	**154**	< 12.4 U	< 32.5 U
SB11	SB11-40-20171104	11/4/2017	N	3.68	40	< 21.0 U	**36400**	**48.2**	< 11.7 U	< 30.8 U
SB11	SB11-44-20171104	11/4/2017	N	3.68	44	< 21.6 U	**11300**	< 39.9 U	< 12.0 U	< 31.5 U
SB11	SB11-49-20171104	11/4/2017	N	3.68	49	< 19.5 U	**131**	< 36.0 U	< 10.9 U	< 28.5 U
SB11	SB11-53.5-20171104	11/4/2017	N	3.68	53.5	< 21.8 U	< 7.56 U	< 40.3 U	< 12.2 U	< 31.9 U
SB11	SB11-56.5-20171104	11/4/2017	N	3.68	56.5	< 20.0 U	< 6.93 U	< 37.0 U	< 11.2 U	< 29.3 U
SB12	SB12-0.5-2-20171104	11/4/2017	N	4.84	0.5-2	< 20.5 U	< 7.11 U	< 37.9 U	< 11.5 U	< 30.0 U
SB12	SB12-3.5-20171104	11/4/2017	N	4.84	3.5	< 21.2 U	< 7.35 U	**48.2**	< 11.8 U	< 31.0 U
SB12	SBDUP-01-20171104	11/4/2017	FD	4.84	3.5	< 23.2 U	**26.3 J**	< 42.8 U	< 12.9 U	< 33.9 U
SB12A	SB12A-7.5-20171107	11/7/2017	N	4.84	7.5	< 19.4 U	**520**	**63.7**	< 10.8 U	< 28.3 U
SB12A	SB12A-10.5-20171107	11/7/2017	N	4.84	10.5	< 16.7 U	**835**	**38.5**	< 9.32 U	< 24.4 U
SB12A	SB12A-16-20171107	11/7/2017	N	4.84	16	< 20.5 U	**1870**	< 37.9 U	< 11.5 U	< 30.0 U
SB12A	SB12A-22-20171107	11/7/2017	N	4.84	22	< 19.5 U	**438**	< 36.0 U	< 10.9 U	< 28.5 U
SB12A	SBDUP-01-20171107	11/7/2017	FD	4.84	22	< 20.5 U	**408**	< 37.9 U	< 11.4 U	< 30.0 U
SB12A	SB12A-27-20171107	11/7/2017	N	4.84	27	< 18.8 U	< 14.5 UB	< 34.7 U	< 10.5 U	< 27.5 U
SB12A	SB12A-32-20171107	11/7/2017	N	4.84	32	< 20.5 U	< 7.11 U	< 37.9 U	< 11.5 U	< 30.0 U
SB12A	SB12A-37-20171107	11/7/2017	N	4.84	37	< 21.2 U	< 7.35 U	< 39.2 U	< 11.8 U	< 31.0 U
SB12A	SB12A-42-20171107	11/7/2017	N	4.84	42	< 18.4 U	< 6.36 U	< 33.9 U	< 10.3 U	< 26.9 U
SB12A	SB12A-47-20171107	11/7/2017	N	4.84	47	< 23.1 U	< 8.01 U	< 42.7 U	< 12.9 U	< 33.8 U
SB12A	SB12A-48-20171107	11/7/2017	N	4.84	48	< 21.0 U	< 7.27 U	< 38.8 U	< 11.7 U	< 30.7 U
SB12A	SB12A-50-20171107	11/7/2017	N	4.84	50	< 20.2 U	< 7.00 U	< 37.4 U	< 11.3 U	< 29.6 U
SB12A	SB12A-51-20171107	11/7/2017	N	4.84	51	< 18.9 U	< 6.56 U	< 35.0 U	< 10.6 U	< 27.7 U
SB12A	SBDUP-03-20171107	11/7/2017	FD	4.84	51	< 19.2 U	< 6.63 U	< 35.4 U	< 10.7 U	< 28.0 U
SB13	SB13-0.5-2-20171104	11/4/2017	N	5.39	0.5-2	< 19.4 U	< 6.70 U	< 35.8 U	< 10.8 U	< 28.3 U
SB13	SB13-6.0-20171104	11/4/2017	N	5.39	6	< 18.1 U	**127**	< 33.3 U	< 10.1 U	< 26.4 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB13A	SB13A-6.5-20171115	11/15/2017	N	5.39	6.5	< 20.1 U	**425**	< 37.2 U	< 11.2 U	< 29.4 U
SB13A	SB13A-11.0-20171115	11/15/2017	N	5.39	11	< 19.1 U	**1640**	**37.2**	< 10.7 U	< 28.0 U
SB13A	SB13A-16.0-20171115	11/15/2017	N	5.39	16	< 16.7 U	**1260**	**31.1 J**	< 9.30 U	< 24.4 U
SB13A	SB13A-18.5-20171115	11/15/2017	N	5.39	18.5	< 17.6 U	**1200**	< 32.6 U	< 9.83 U	< 25.8 U
SB13A	SB13A-23.0-20171115	11/15/2017	N	5.39	23	< 17.0 U	**54.5**	< 31.4 U	< 9.47 U	< 24.8 U
SB13A	SB13A-28.0-20171115	11/15/2017	N	5.39	28	< 18.5 U	**13.2 J**	< 34.1 U	< 10.3 U	< 27.0 U
SB13A	SB13A-33.0-20171115	11/15/2017	N	5.39	33	< 18.8 U	< 6.51 U	< 34.7 U	< 10.5 U	< 27.5 U
SB13A	SBDUP-02-20171115	11/15/2017	FD	5.39	33	< 17.0 U	< 5.89 U	< 31.4 U	< 9.49 U	< 24.9 U
SB13A	SB13A-38.0-20171115	11/15/2017	N	5.39	38	< 19.7 U	< 6.83 U	< 36.4 U	< 11.0 U	< 28.9 U
SB13A	SB13A-43.0-20171115	11/15/2017	N	5.39	43	< 20.4 U	< 7.06 U	< 37.7 U	< 11.4 U	< 29.8 U
SB13A	SB13A-47.7-20171115	11/15/2017	N	5.39	47.7	< 19.7 U	< 6.80 U	< 36.3 U	< 11.0 U	< 28.7 U
SB14	SB14-0.5-2-20171104	11/4/2017	N	2.71	0.5-2	< 22.6 U	< 7.81 U	< 41.7 U	< 12.6 U	< 33.0 U
SB14A	SB14A-10-20171114	11/14/2017	N	2.71	10	< 20.0 U	< 6.92 U	< 36.9 U	< 11.1 U	< 29.2 U
SB14A	SB14A-15-20171114	11/14/2017	N	2.71	15	< 17.5 U	< 6.04 U	< 32.2 U	< 9.73 U	< 25.5 U
SB14A	SB14A-20-20171114	11/14/2017	N	2.71	20	< 21.7 U	< 7.50 U	< 40.0 U	< 12.1 U	< 31.7 U
SB14A	SB14A-25-20171114	11/14/2017	N	2.71	25	< 18.8 U	< 6.52 U	< 34.8 U	< 10.5 U	< 27.5 U
SB14A	SBDUP-02-20171114	11/14/2017	FD	2.71	25	< 16.9 U	< 5.84 U	< 31.1 U	< 9.41 U	< 24.7 U
SB14A	SB14A-30-20171114	11/14/2017	N	2.71	30	< 20.6 U	< 7.14 U	< 38.1 U	< 11.5 U	< 30.2 U
SB14A	SB14A-35-20171114	11/14/2017	N	2.71	35	< 18.2 U	< 6.29 U	< 33.5 U	< 10.1 U	< 26.5 U
SB14A	SB14A-40-20171114	11/14/2017	N	2.71	40	< 18.9 U	< 6.55 U	< 34.9 U	< 10.6 U	< 27.7 U
SB14A	SB14A-45-20171114	11/14/2017	N	2.71	45	< 17.9 U	< 6.21 U	< 33.1 U	< 10.0 U	< 26.2 U
SB14A	SB14A-50-20171114	11/14/2017	N	2.71	50	< 19.4 U	< 6.72 U	< 35.8 U	< 10.8 U	< 28.4 U
SB14A	SB14A-55-20171114	11/14/2017	N	2.71	55	< 18.2 U	< 6.30 U	< 33.6 U	< 10.1 U	< 26.6 U
SB15	SB15-0.5-1.5-20171105	11/5/2017	N	2.22	0.5-1.5	< 19.9 U	< 6.88 U	< 36.7 U	< 11.1 U	< 29.0 U
SB15	SB15-3.3-20171105	11/5/2017	N	2.22	3.3	< 25.7 U	< 8.89 U	< 47.4 U	< 14.3 U	< 37.6 U
SB15A	SB15A-7.5-20171129	11/29/2017	N	2.22	7.5	< 18.2 U	**328**	**2370**	< 10.2 U	**267**
SB15A	SB15A-10.0-20171129	11/29/2017	N	2.22	10	< 18.1 U	**8710**	**1330**	< 10.1 U	< 26.4 U
SB15A	SB15A-11.0-20171129	11/29/2017	N	2.22	11	< 19.8 U	**13200**	**1340**	< 11.1 U	< 29.0 U
SB15A	SB15A-13.0-20171129	11/29/2017	N	2.22	13	< 18.2 U	**14400**	**1290**	< 10.1 U	< 26.6 U
SB15A	SB15A-16.5-20171129	11/29/2017	N	2.22	16.5	< 17.9 U	**16700**	**1780**	< 9.97 U	**106**
SB15A	SB15A-19.5-20171129	11/29/2017	N	2.22	19.5	< 18.3 U	**18600 J**	**1960**	< 10.2 U	**133**
SB15A	SB15A-21.5-20171129	11/29/2017	N	2.22	21.5	< 19.3 U	**23100 J**	**1870**	< 10.7 UJ	**129 J**
SB15A	SB15A-22.0-20171129	11/29/2017	N	2.22	22	< 18.1 U	**26800 J**	**2080**	< 10.1 U	**145**
SB15A	SB15A-24.0-20171129	11/29/2017	N	2.22	24	< 18.1 U	**33800 J**	**1300**	< 10.1 U	**104**
SB15A	SB15A-26.5-20171129	11/29/2017	N	2.22	26.5	**31.6 J**	**48500 J**	**331**	< 10.2 U	**56.2**
SB15A	SB15A-29.0-20171129	11/29/2017	N	2.22	29	< 18.3 U	**39500 J**	**48.8**	< 10.2 U	< 26.7 U

Notes are presented on page 17

Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB15A	SB15A-31.5-20171129	11/29/2017	N	2.22	31.5	< 19.4 U	**15700**	< 35.9 U	< 10.8 U	< 28.4 U
SB15A	SBDUP-01-20171129	11/29/2017	FD	2.22	31.5	< 17.9 U	**15300**	< 33.0 U	< 9.98 U	< 26.1 U
SB15A	SB15A-34.0-20171129	11/29/2017	N	2.22	34	< 17.2 U	**6670**	< 31.7 U	< 9.58 U	< 25.1 U
SB15A	SB15A-36.0-20171129	11/29/2017	N	2.22	36	< 19.4 U	**10600**	< 35.8 U	< 10.8 U	< 28.3 U
SB15A	SB15A-39.5-20171129	11/29/2017	N	2.22	39.5	< 17.6 U	**21100 J**	< 32.4 U	< 9.79 U	< 25.7 U
SB15A	SB15A-40.5-20171129	11/29/2017	N	2.22	40.5	< 20.2 U	**22700 J**	< 37.4 U	< 11.3 U	< 29.6 U
SB15A	SB15A-42.5-20171129	11/29/2017	N	2.22	42.5	< 18.3 U	**18300 J**	< 33.8 U	< 10.2 U	< 26.8 U
SB15A	SB15A-43.5-20171129	11/29/2017	N	2.22	43.5	< 21.4 U	**17900**	< 39.4 U	< 11.9 U	< 31.2 U
SB15A	SB15A-45.2-20171129	11/29/2017	N	2.22	45.2	< 23.9 U	**5550**	< 44.1 U	< 13.3 U	< 34.9 U
SB15A	SB15A-46.0-20171129	11/29/2017	N	2.22	46	< 19.8 U	**8300**	< 36.6 U	< 11.1 U	< 29.0 U
SB15A	SB15A-46.4-20171129	11/29/2017	N	2.22	46.4	< 16.5 U	**1580**	< 30.5 U	< 9.20 U	< 24.1 U
SB15A	SB15A-48.5-20171129	11/29/2017	N	2.22	48.5	< 19.8 U	**714**	< 36.6 U	< 11.1 U	< 29.0 U
SB15A	SB15A-49.0-20171129	11/29/2017	N	2.22	49	< 16.7 U	**331**	< 30.9 U	< 9.32 U	< 24.4 U
SB15A	SB15A-49.5-20171129	11/29/2017	N	2.22	49.5	< 17.4 U	**55.0**	< 32.2 U	< 9.73 U	< 25.5 U
SB16	SB16-0.5-20171105	11/5/2017	N	4.31	0.5	< 29.4 U	**46.3 J**	< 54.2 U	< 16.4 U	< 42.9 U
SB16	SB16-4.5-20171105	11/5/2017	N	4.31	4.5	< 21.0 U	**323**	< 38.8 U	< 11.7 U	< 30.7 U
SB16	SB16-9.5-20171105	11/5/2017	N	4.31	9.5	< 23.9 U	**105**	< 44.1 U	< 13.3 U	< 34.9 U
SB16	SBDUP-01-20171105	11/5/2017	FD	4.31	9.5	< 24.9 U	**86.3**	< 46.1 U	< 13.9 U	< 36.5 U
SB16	SB16-14.5-20171105	11/5/2017	N	4.31	14.5	< 21.8 U	**31.9 J**	< 40.3 U	< 12.2 U	< 31.9 U
SB16	SB16-21-20171105	11/5/2017	N	4.31	21	< 22.8 U	< 7.90 U	< 42.1 U	< 12.7 U	< 33.4 U
SB16	SB16-26-20171105	11/5/2017	N	4.31	26	< 21.2 U	< 7.34 U	< 39.2 U	< 11.8 U	< 31.0 U
SB16	SB16-31-20171105	11/5/2017	N	4.31	31	< 19.4 U	< 6.71 U	< 35.8 U	< 10.8 U	< 28.3 U
SB16	SB16-36-20171105	11/5/2017	N	4.31	36	< 22.0 U	< 7.62 U	< 40.6 U	< 12.3 U	< 32.2 U
SB16	SB16-41-20171105	11/5/2017	N	4.31	41	< 25.1 U	< 8.69 U	< 46.3 U	< 14.0 U	< 36.7 U
SB16	SB16-46-20171105	11/5/2017	N	4.31	46	< 21.7 U	< 7.52 U	< 40.1 U	< 12.1 U	< 31.7 U
SB16	SB16-50.5-20171105	11/5/2017	N	4.31	50.5	< 25.1 U	< 8.69 U	< 46.3 U	< 14.0 U	< 36.7 U
SB16	SB16-52-20171105	11/5/2017	N	4.31	52	< 29.0 U	< 10.0 U	< 53.5 U	< 16.2 U	< 42.4 UJ
SB16	SBDUP-02-20171105	11/5/2017	FD	4.31	52	< 24.4 U	< 8.46 U	< 45.1 U	< 13.6 U	< 35.7 U
SB17	SB17-0.5-2-20171105	11/5/2017	N	3.68	0.5-2	< 19.2 U	< 6.65 U	< 35.5 U	< 10.7 U	< 28.1 U
SB17	SB17-6.5-20171118	11/18/2017	N	3.68	6.5	< 23.4 U	**344**	**81.8**	< 13.0 U	< 34.1 U
SB17	SB17-11.0-20171118	11/18/2017	N	3.68	11	< 18.8 U	**997**	**155**	< 10.5 U	< 27.5 U
SB17	SB17-15.0-20171118	11/18/2017	N	3.68	15	< 20.4 U	**1620**	**248**	< 11.4 U	< 29.9 U
SB17	SB17-17.5-20171118	11/18/2017	N	3.68	17.5	**31.7 J**	**3220**	**278**	< 10.8 U	< 28.3 U
SB17	SBDUP-02-20171118	11/18/2017	FD	3.68	17.5	**33.0 J**	**3160**	**260**	< 9.88 U	< 25.9 U
SB17	SB17-20.0-20171118	11/18/2017	N	3.68	20	**58.6**	**4410**	**252**	< 9.94 U	< 26.1 U
SB17	SB17-21.0-20171118	11/18/2017	N	3.68	21	**83.5**	**5890**	**323**	< 10.3 U	< 26.9 U
SB17	SB17-24.0-20171118	11/18/2017	N	3.68	24	**95.7**	**7340**	**381**	< 10.9 U	< 28.5 U

Notes are presented on page 17

Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB17	SB17-30.0-20171118	11/18/2017	N	3.68	30	**20.6 J**	**15600**	**51.1**	< 11.5 U	< 30.1 U
SB17	SB17-31.5-20171118	11/18/2017	N	3.68	31.5	< 21.0 U	**19200**	< 38.7 U	< 11.7 U	< 30.6 U
SB17	SB17-35.0-20171118	11/18/2017	N	3.68	35	**20.8 J**	**30400**	< 34.4 U	< 10.4 U	< 27.2 U
SB17	SB17-37.5-20171118	11/18/2017	N	3.68	37.5	< 19.1 U	**12900**	< 35.3 U	< 10.7 U	< 28.0 U
SB17	SB17-39.0-20171118	11/18/2017	N	3.68	39	< 21.3 U	**6810**	< 39.2 U	< 11.9 U	< 31.1 U
SB17	SB17-41.5-20171118	11/18/2017	N	3.68	41.5	< 19.2 U	**1020**	< 35.4 U	< 10.7 U	< 28.0 U
SB17	SB17-44.5-20171118	11/18/2017	N	3.68	44.5	< 18.5 U	**44.4**	< 34.1 U	< 10.3 U	< 27.0 U
SB17	SB17-46.5-20171118	11/18/2017	N	3.68	46.5	< 21.4 U	**33.4 J**	< 39.5 U	< 11.9 U	< 31.3 U
SB17	SB17-46.6-20171118	11/18/2017	N	3.68	46.6	< 21.1 U	**17.4 J**	< 38.9 U	< 11.7 U	< 30.8 U
SB17	SB17-46.8-20171118	11/18/2017	N	3.68	46.8	< 19.2 U	**24.0 J**	< 35.5 U	< 10.7 U	< 28.1 U
SB17	SB17-52.0-20171118	11/18/2017	N	3.68	52	< 22.1 U	< 7.66 U	< 40.8 U	< 12.3 U	< 32.3 U
SB18	SB18-0.5-2.0-20171106	11/6/2017	N	3.68	0.5-2	< 22.7 U	**76.8**	< 41.9 U	< 12.7 U	< 33.2 U
SB18	SB18-5.7-20171106	11/6/2017	N	3.68	5.7	< 20.4 U	**9900**	**1850**	< 11.4 U	**192**
SB18	SB18-7.3-20171106	11/6/2017	N	3.68	7.3	< 18.9 U	**17000**	**2890**	< 10.6 U	**283**
SB18	SB18-13.2-20171106	11/6/2017	N	3.68	13.2	**26.7 J**	**87000**	**5450**	**20.2 J**	**683**
SB18	SB18-14.7-20171106	11/6/2017	N	3.68	14.7	**24.3 J**	**93900**	**5320**	**19.3 J**	**669**
SB18	SB18-20.1-20171106	11/6/2017	N	3.68	20.1	< 16.4 U	**129000**	**9080 J**	**29.9 J**	**1040 J**
SB18	SB18-23-20171106	11/6/2017	N	3.68	23	**18.8 J**	**198000**	**5830**	**20.9 J**	**751**
SB18	SB18-24.4-20171106	11/6/2017	N	3.68	24.4	< 17.9 U	**212000**	**3030**	**12.4 J**	**410**
SB18	SB18-24.5-20171106	11/6/2017	N	3.68	24.5	< 20.0 U	**136000**	**1960**	< 11.1 U	**243**
SB18	SB18-24.6-20171106	11/6/2017	N	3.68	24.6	< 18.5 U	**196000**	**2890**	**11.4 J**	**387**
SB18	SB18-28.1-20171106	11/6/2017	N	3.68	28.1	**19.3 J**	**200000**	**510**	< 10.4 U	**71.2**
SB18	SB18-30.8-20171106	11/6/2017	N	3.68	30.8	**21.8 J**	**239000**	**257**	< 10.5 U	< 27.6 U
SB18	SBDUP-02-20171106	11/6/2017	FD	3.68	30.8	**30.1 J**	**250000**	**269**	**9.17 J**	< 24.0 U
SB18	SB18-32-20171106	11/6/2017	N	3.68	32	**33.0 J**	**227000**	**235**	**11.6 J**	< 26.7 U
SB18	SB18-34-20171106	11/6/2017	N	3.68	34	**484**	**832000**	**228**	**15.5 J**	< 28.0 U
SB18	SB18-34.7-20171106	11/6/2017	N	3.68	34.7	**63.1**	**235000**	**154**	**11.2 J**	< 29.4 U
SB18	SB18-39.3-20171106	11/6/2017	N	3.68	39.3	< 19.8 U	**30000**	< 36.5 U	< 11.0 U	< 28.9 U
SB18	SBDUP-04-20171106	11/6/2017	FD	3.68	39.3	< 18.4 U	**29600**	< 34.0 U	< 10.3 U	< 27.0 U
SB18	SB18-44-20171106	11/6/2017	N	3.68	44	< 16.8 U	**1010**	< 31.0 U	< 9.36 U	< 24.5 U
SB19	SB19-1-2-20171106	11/6/2017	N	3.68	1-2	< 23.5 U	< 8.15 U	< 43.5 U	< 13.1 U	< 34.4 U
SB19	SB19-5.5-20171106	11/6/2017	N	3.68	5.5	< 24.7 U	< 8.54 U	< 45.5 U	< 13.8 U	< 36.1 U
SB19	SB19-8.5-20171106	11/6/2017	N	3.68	8.5	< 22.2 U	< 7.68 U	< 41.0 U	< 12.4 U	< 32.4 U
SB19	SB19-13-20171106	11/6/2017	N	3.68	13	< 20.2 U	**379**	< 37.3 U	< 11.3 U	< 29.6 U
SB19	SB19-17.5-20171106	11/6/2017	N	3.68	17.5	< 18.0 U	**1810**	**119**	< 10.0 U	< 26.3 U
SB19	SBDUP-01-20171106	11/6/2017	FD	3.68	17.5	< 18.9 U	**1630**	**111**	< 10.6 U	< 27.7 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB19	SB19-22.5-20171106	11/6/2017	N	3.68	22.5	< 19.2 U	**50100**	**643**	< 10.7 U	< 28.0 U
SB19	SB19-25-20171106	11/6/2017	N	3.68	25	< 1980 U	**201000**	< 3660 U	< 1100 U	< 2890 U
SB19	SB19-27.5-20171106	11/6/2017	N	3.68	27.5	< 2100 U	**234000**	< 3880 U	< 1170 U	< 3070 U
SB19	SB19-29.5-20171106	11/6/2017	N	3.68	29.5	< 2330 U	**198000**	< 4310 U	< 1300 U	< 3410 U
SB19	SB19-31-20171106	11/6/2017	N	3.68	31	< 2090 U	**221000**	< 3850 U	< 1160 U	< 3050 U
SB19	SB19-32.5-20171106	11/6/2017	N	3.68	32.5	< 2550 U	**122000**	< 4720 U	< 1420 U	< 3730 U
SB19	SB19-34-20171106	11/6/2017	N	3.68	34	< 1830 U	**72600**	< 3380 U	< 1020 U	< 2680 U
SB19	SB19-35-20171106	11/6/2017	N	3.68	35	< 2170 U	**49600**	< 4000 U	< 1210 U	< 3170 U
SB19	SB19-36.5-20171106	11/6/2017	N	3.68	36.5	< 21.4 U	**34800**	< 39.4 U	< 11.9 U	< 31.2 U
SB19	SB19-39-20171106	11/6/2017	N	3.68	39	< 24.6 U	**7970**	< 45.4 U	< 13.7 U	< 36.0 U
SB19	SB19-41.5-20171106	11/6/2017	N	3.68	41.5	< 20.0 U	**1090**	< 36.9 U	< 11.1 U	< 29.2 U
SB19	SBDUP-03-20171106	11/6/2017	FD	3.68	41.5	< 20.0 U	**1180**	< 36.9 U	< 11.2 U	< 29.2 U
SB19	SB19-44.5-20171106	11/6/2017	N	3.68	44.5	< 20.0 U	**94.7**	< 36.9 U	< 11.2 U	< 29.2 U
SB19	SB19-49-20171106	11/6/2017	N	3.68	49	< 20.0 U	< 6.94 U	< 37.0 U	< 11.2 U	< 29.3 U
SB19	SB19-54-20171106	11/6/2017	N	3.68	54	< 21.8 U	< 7.54 U	< 40.2 U	< 12.1 U	< 31.8 U
SB19	SB19-59-20171106	11/6/2017	N	3.68	59	< 21.8 U	< 7.55 U	< 40.3 U	< 12.2 U	< 31.9 U
SB19	SB19-62-20171106	11/6/2017	N	3.68	62	< 17.8 U	< 6.17 U	< 32.9 U	< 9.93 U	< 26.0 U
SB20	SB20-0.5-2.0-20171107	11/7/2017	N	3.68	0.5-2	< 20.4 U	**41.9**	< 37.6 U	< 11.4 U	< 29.8 U
SB20	SB20-6.3-20171107	11/7/2017	N	3.68	6.3	< 18.5 U	**1300**	**83.3**	< 10.3 U	< 27.1 U
SB20	SB20-6.7-20171107	11/7/2017	N	3.68	6.7	< 18.5 U	**1440**	**72.9**	< 10.3 U	< 27.0 U
SB20	SB20-7.2-20171107	11/7/2017	N	3.68	7.2	< 17.7 U	**1980**	**85.0**	< 9.86 U	< 25.8 U
SB20	SB20-9.7-20171107	11/7/2017	N	3.68	9.7	< 19.7 U	**42200**	**771**	**12.1 J**	**29.1 J**
SB20	SB20-12.3-20171107	11/7/2017	N	3.68	12.3	< 2000 U	**128000**	< 3700 U	< 1120 U	< 2930 U
SB20	SB20-14.7-20171107	11/7/2017	N	3.68	14.7	< 1850 U	**100000**	**3910**	< 1030 U	< 2700 U
SB20	SB20-19.3-20171107	11/7/2017	N	3.68	19.3	**36.1**	**115000**	**6630**	**41.0**	**369**
SB20	SB20-23.7-20171107	11/7/2017	N	3.68	23.7	< 20.4 U	**108000**	**1890**	**22.3 J**	**72.8**
SB20	SB20-25.7-20171107	11/7/2017	N	3.68	25.7	< 18.2 U	**60500**	**535**	**14.4 J**	< 26.7 U
SB20	SB20-28.7-20171107	11/7/2017	N	3.68	28.7	< 1850 U	< 24500 UB	< 3420 U	< 1030 U	< 2710 U
SB20	SB20-31.3-20171107	11/7/2017	N	3.68	31.3	< 1760 U	**118000**	< 3240 U	< 979 U	< 2570 U
SB20	SBDUP-02-20171107	11/7/2017	FD	3.68	31.3	< 1950 U	**136000**	< 3600 U	< 1090 U	< 2850 U
SB20	SB20-34.3-20171107	11/7/2017	N	3.68	34.3	< 1780 U	**139000**	< 3290 U	< 993 U	< 2600 U
SB20	SB20-38.7-20171107	11/7/2017	N	3.68	38.7	**25.6 J**	**45200**	< 31.9 U	< 9.64 U	< 25.3 U
SB21	SB21-0.5-2.0-20171107	11/7/2017	N	3.68	0.5-2	< 22.3 U	**30.9 J**	< 41.2 U	< 12.5 U	< 32.6 U
SB21	SB21-5.7-20171107	11/7/2017	N	3.68	5.7	< 20.0 U	**809**	**46.8**	< 11.1 U	< 29.2 U
SB21	SB21-7.7-20171108	11/8/2017	N	3.68	7.7	< 23.5 U	**1690 J**	< 43.3 U	< 13.1 U	< 34.3 UJ
SB21	SB21-13.3-20171108	11/8/2017	N	3.68	13.3	< 18.8 U	**643**	< 34.8 U	< 10.5 U	< 27.5 U

Notes are presented on page 17

Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB21	SB21-17.3-20171108	11/8/2017	N	3.68	17.3	< 18.5 U	**847**	< 34.2 U	< 10.3 U	< 27.1 U
SB21	SB21-22.7-20171108	11/8/2017	N	3.68	22.7	< 20.2 U	**1890**	< 37.3 U	< 11.3 U	< 29.5 U
SB21	SB21-26.3-20171108	11/8/2017	N	3.68	26.3	< 19.0 U	**2490**	< 35.1 U	< 10.6 U	< 27.8 U
SB21	SB21-31.7-20171108	11/8/2017	N	3.68	31.7	< 18.8 U	**474**	< 34.6 U	< 10.5 U	< 27.4 U
SB21	SBDUP-01-20171108	11/8/2017	FD	3.68	31.7	< 20.2 U	**457**	< 37.4 U	< 11.3 U	< 29.6 U
SB21	SB21-35.7-20171108	11/8/2017	N	3.68	35.7	< 18.6 U	**66.6**	< 34.4 U	< 10.4 U	< 27.2 U
SB22	SB22-1.0-2.2-20171108	11/8/2017	N	4.31	1-2.2	< 23.9 U	< 8.29 U	< 44.2 U	< 13.3 U	< 35.0 U
SB22	SB22-5-20171108	11/8/2017	N	4.31	5	< 23.3 U	**12.1 J**	< 43.1 U	< 13.0 U	< 34.1 U
SB22	SB22-11.5-20171108	11/8/2017	N	4.31	11.5	< 20.6 U	**49.6**	< 38.1 U	< 11.5 U	< 30.2 U
SB22	SB22-13.5-20171108	11/8/2017	N	4.31	13.5	< 20.2 U	**68.4**	< 37.3 U	< 11.3 U	< 29.6 U
SB22	SB22-18-20171108	11/8/2017	N	4.31	18	< 19.5 U	**36.5 J**	< 36.1 U	< 10.9 U	< 28.6 UJ
SB22	SBDUP-02-20171108	11/8/2017	FD	4.31	18	< 20.9 U	**24.1 J**	< 38.6 U	< 11.7 U	< 30.6 U
SB22	SB22-24.5-20171108	11/8/2017	N	4.31	24.5	< 21.0 U	< 7.26 U	< 38.7 U	< 11.7 U	< 30.6 U
SB22	SB22-29-20171108	11/8/2017	N	4.31	29	< 19.1 U	< 6.60 U	< 35.2 U	< 10.6 U	< 27.8 U
SB22	SB22-34-20171108	11/8/2017	N	4.31	34	< 20.3 U	< 7.02 U	< 37.4 U	< 11.3 U	< 29.6 U
SB22	SB22-39-20171108	11/8/2017	N	4.31	39	< 19.5 U	< 6.75 U	< 36.0 U	< 10.9 U	< 28.5 U
SB22	SB22-44-20171108	11/8/2017	N	4.31	44	< 20.4 U	< 7.05 U	< 37.6 U	< 11.4 U	< 29.8 U
SB22	SB22-49-20171108	11/8/2017	N	4.31	49	< 20.2 U	< 6.98 U	< 37.2 U	< 11.2 U	< 29.5 U
SB23	SB23-0.5-2.0-20171108	11/8/2017	N	3.68	0.5-2	< 21.1 U	**7.72 J**	< 39.0 U	< 11.8 U	< 30.9 U
SB23	SB23-5.7-20171108	11/8/2017	N	3.68	5.7	< 22.7 U	< 7.86 U	< 41.9 U	< 12.7 U	< 33.2 UJ
SB23	SB23-7.0-20171108	11/8/2017	N	3.68	7	< 23.1 U	**15.1 J**	< 42.7 U	< 12.9 U	< 33.8 U
SB23	SB23-11.5-20171108	11/8/2017	N	3.68	11.5	< 19.9 U	< 6.89 U	< 36.8 U	< 11.1 U	< 29.1 U
SB23	SB23-15.7-20171108	11/8/2017	N	3.68	15.7	< 19.2 U	< 6.64 U	< 35.4 U	< 10.7 U	< 28.0 U
SB23	SB23-17.3-20171108	11/8/2017	N	3.68	17.3	< 19.4 U	< 6.72 U	< 35.8 U	< 10.8 U	< 28.4 U
SB23	SB23-22.3-20171108	11/8/2017	N	3.68	22.3	< 21.5 U	< 7.45 U	< 39.7 U	< 12.0 U	< 31.5 U
SB23	SB23-26.6-20171108	11/8/2017	N	3.68	26.6	< 18.5 U	< 6.42 U	< 34.2 U	< 10.3 U	< 27.1 U
SB23	SB23-26.8-20171108	11/8/2017	N	3.68	26.8	< 20.2 U	< 6.98 U	< 37.2 U	< 11.3 U	< 29.5 U
SB23	SB23-27-20171108	11/8/2017	N	3.68	27	< 19.2 U	< 6.66 U	< 35.5 U	< 10.7 U	< 28.1 U
SB23	SB23-32-20171108	11/8/2017	N	3.68	32	< 17.9 U	< 6.20 U	< 33.1 U	< 9.99 U	< 26.2 U
SB24	SB24-0.7-2.0-20171113	11/13/2017	N	2.71	0.7-2	< 21.1 U	**7990**	< 38.9 U	< 11.8 U	< 30.8 U
SB24	SB24-5.7-20171113	11/13/2017	N	2.71	5.7	< 20.3 U	**101000**	< 37.5 U	< 11.3 U	< 29.7 U
SB24	SB24-7.3-20171114	11/13/2017	N	2.71	7.3	< 20.9 U	**95300**	< 38.5 U	< 11.6 U	< 30.5 U
SB24	SB24-9.7-20171114	11/14/2017	N	2.71	9.7	< 21.8 U	**14600**	< 40.3 U	< 12.2 U	< 31.9 U
SB24	SB24-10.3-20171114	11/14/2017	N	2.71	10.3	< 20.0 U	**7750**	< 37.0 U	< 11.2 U	< 29.3 U
SB24	SB24-10.7-20171114	11/14/2017	N	2.71	10.7	< 19.8 U	**11400**	< 36.5 U	< 11.0 U	< 28.9 U
SB24	SB24-14.0-20171114	11/14/2017	N	2.71	14	< 18.9 U	**22900**	< 34.9 U	< 10.5 U	< 27.6 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB24	SB24-14.2-20171114	11/14/2017	N	2.71	14.2	< 18.8 U	**27600**	< 34.6 U	< 10.5 U	< 27.4 U
SB24	SB24-14.5-20171114	11/14/2017	N	2.71	14.5	< 18.5 U	**30000**	< 34.1 U	< 10.3 U	< 27.0 U
SB24	SB24-16.7-20171114	11/14/2017	N	2.71	16.7	< 19.1 U	**30200**	< 35.2 U	< 10.6 U	< 27.9 U
SB24	SB24-18.2-20171114	11/14/2017	N	2.71	18.2	< 17.3 U	**12900**	< 31.9 U	< 9.64 U	< 25.3 U
SB24	SB24-18.5-20171114	11/14/2017	N	2.71	18.5	< 19.8 U	**10400**	< 36.6 U	< 11.1 U	< 29.0 U
SB24	SB24-18.8-20171114	11/14/2017	N	2.71	18.8	< 20.5 U	**10200**	< 37.9 U	< 11.4 U	< 30.0 U
SB24	SB24-24.7-20171114	11/14/2017	N	2.71	24.7	< 18.4 U	**473**	< 34.0 U	< 10.3 U	< 26.9 U
SB24	SB24-26.3-20171114	11/14/2017	N	2.71	26.3	< 19.4 U	**109**	< 35.8 U	< 10.8 U	< 28.3 U
SB24	SBDUP-01-20171114	11/14/2017	FD	2.71	26.3	< 18.9 U	**110**	< 34.9 U	< 10.5 U	< 27.6 U
SB24	SB24-27.7-20171114	11/14/2017	N	2.71	27.7	< 17.9 U	**180**	< 33.0 U	< 9.98 U	< 26.2 U
SB24	SB24-28.3-20171114	11/14/2017	N	2.71	28.3	< 18.7 U	**261**	< 34.6 U	< 10.4 U	< 27.4 U
SB24	SB24-33.0-20171114	11/14/2017	N	2.71	33	< 17.2 U	**232**	< 31.8 U	< 9.62 U	< 25.2 U
SB24	SB24-37.3-20171114	11/14/2017	N	2.71	37.3	< 18.8 U	**109**	< 34.7 U	< 10.5 U	< 27.5 U
SB25	SB25-0.5-2.0-20171114	11/14/2017	N	5.46	0.5-2	< 22.9 U	< 7.93 U	< 42.3 U	< 12.8 U	< 33.5 U
SB25	SB25-6.5-20171114	11/14/2017	N	5.46	6.5	< 20.8 U	< 7.20 U	< 38.4 U	< 11.6 U	< 30.4 U
SB25	SB25-7.8-20171114	11/14/2017	N	5.46	7.8	< 21.7 U	< 7.52 U	< 40.1 U	< 12.1 U	< 31.8 U
SB25	SB25-12.0-20171114	11/14/2017	N	5.46	12	< 20.5 U	< 7.09 U	< 37.8 U	< 11.4 U	< 29.9 U
SB25	SB25-12.7-20171114	11/14/2017	N	5.46	12.7	< 19.3 U	< 6.68 U	< 35.6 U	< 10.8 U	< 28.2 U
SB25	SB25-18.0-20171114	11/14/2017	N	5.46	18	< 18.3 U	< 6.34 U	< 33.8 U	< 10.2 U	< 26.8 U
SB25	SBDUP-04-20171114	11/14/2017	FD	5.46	18	< 17.2 U	< 5.95 U	< 31.7 U	< 9.59 U	< 25.1 U
SB25	SB25-23.0-20171114	11/14/2017	N	5.46	23	< 17.5 U	< 6.05 U	< 32.3 U	< 9.74 U	< 25.5 U
SB25	SB25-28.0-20171115	11/15/2017	N	5.46	28	< 17.4 U	< 6.02 U	< 32.1 U	< 9.69 U	< 25.4 U
SB25	SB25-33.0-20171115	11/15/2017	N	5.46	33	< 18.4 U	< 6.37 U	< 34.0 U	< 10.3 U	< 26.9 U
SB25	SB25-35.3-20171115	11/15/2017	N	5.46	35.3	< 17.7 U	< 6.14 U	< 32.7 U	< 9.89 U	< 25.9 U
SB26	SB26-0.0-2.0-20171113	11/13/2017	N	5.39	0-2	< 24.4 U	**11.8 J**	< 45.1 U	< 13.6 U	< 35.7 U
SB26	SB26-5.0-20171113	11/13/2017	N	5.39	5	< 18.3 U	**96.2**	< 33.7 U	< 10.2 U	< 26.7 U
SB26	SB26-9.0-20171128	11/28/2017	N	5.39	9	< 20.1 U	**196**	**93.4**	**12.4 J**	< 29.4 U
SB26	SB26-14.0-20171128	11/28/2017	N	5.39	14	< 18.4 U	**58.4**	< 34.0 U	< 10.3 U	< 26.9 U
SB26	SB26-19.0-20171128	11/28/2017	N	5.39	19	< 19.2 U	**30.6 J**	< 35.4 U	< 10.7 U	< 28.0 U
SB26	SB26-21.0-20171128	11/28/2017	N	5.39	21	< 16.9 UJ	**12.0 J**	< 31.2 UJ	< 9.42 UJ	< 24.7 UJ
SB26	SB26-23.5-20171128	11/28/2017	N	5.39	23.5	< 18.5 U	< 6.41 U	< 34.2 U	< 10.3 U	< 27.1 U
SB26	SB26-26.0-20171128	11/28/2017	N	5.39	26	< 17.2 U	< 5.94 U	< 31.7 U	< 9.57 U	< 25.1 U
SB26	SBDUP-01-20171128	11/28/2017	FD	5.39	26	< 16.3 U	< 5.63 U	< 30.0 U	< 9.07 U	< 23.8 U
SB26	SB26-29.7-20171128	11/28/2017	N	5.39	29.7	< 17.9 U	< 6.21 U	< 33.1 U	< 10.0 U	< 26.2 U
SB27	SB27-1.0-2.0-20171113	11/13/2017	N	4.31	1-2	< 20.7 U	< 7.18 U	< 38.3 U	< 11.6 U	< 30.3 U
SB27	SB27-5.5-20171113	11/13/2017	N	4.31	5.5	< 20.8 U	< 7.21 U	< 38.4 U	< 11.6 U	< 30.4 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB27	SB27-10-20171120	11/20/2017	N	4.31	10	< 19.0 U	< 6.59 U	< 35.1 U	< 10.6 U	< 27.8 U
SB27	SB27-15-20171120	11/20/2017	N	4.31	15	< 18.2 U	< 6.29 U	< 33.5 U	< 10.1 U	< 26.5 U
SB27	SB27-20-20171120	11/20/2017	N	4.31	20	< 18.8 U	< 6.49 U	< 34.6 U	< 10.5 U	< 27.4 U
SB27	SBDUP-01-20171120	11/20/2017	FD	4.31	20	< 18.5 U	< 6.41 U	< 34.2 U	< 10.3 U	< 27.1 U
SB27	SB27-26.5-20171120	11/20/2017	N	4.31	26.5	< 33.0 U	< 13.7 U	< 10.2 U	< 11.2 U	< 21.0 U
SB28	SB28-1.0-2.0-20171113	11/13/2017	N	2.71	1-2	< 22.4 U	**151**	< 41.3 U	< 12.5 U	< 32.7 U
SB28	SB28-5.0-20171113	11/13/2017	N	2.71	5	< 21.2 U	**760**	< 39.2 U	< 11.8 U	< 31.0 U
SB28	SB28-10.0-20171118	11/18/2017	N	2.71	10	< 18.4 U	**6640**	**194**	< 10.3 U	< 26.9 U
SB28	SB28-14.0-20171118	11/18/2017	N	2.71	14	< 19.6 U	**11000**	**290**	< 10.9 U	< 28.7 U
SB28	SBDUP-01-20171118	11/18/2017	FD	2.71	14	< 17.6 U	**12200**	**290**	< 9.83 U	< 25.8 U
SB28	SB28-19.5-20171118	11/18/2017	N	2.71	19.5	< 21.1 U	**12300**	**211**	< 11.7 U	< 30.8 U
SB28	SB28-23.5-20171118	11/18/2017	N	2.71	23.5	< 17.9 U	**24400**	**151**	< 9.97 U	< 26.1 U
SB28	SB28-27.0-20171118	11/18/2017	N	2.71	27	< 17.9 U	**13000**	< 33.0 U	< 9.96 U	< 26.1 UJ
SB29	SB29-0.5-2.0-20171113	11/13/2017	N	5.39	0.5-2	< 22.1 U	< 7.64 U	< 40.7 U	< 12.3 U	< 32.2 U
SB29	SB29-2.0-20171113	11/13/2017	N	5.39	2	< 22.2 UJ	< 7.69 UJ	< 41.0 UJ	< 12.4 UJ	< 32.5 UJ
SB29	SB29-4.5-20171113	11/13/2017	N	5.39	4.5	< 20.2 U	< 6.98 U	< 37.2 U	< 11.2 U	< 29.5 U
SB29	SB29-9.0-20171114	11/14/2017	N	5.39	9	< 21.1 U	< 7.32 U	< 39.0 U	< 11.8 U	< 30.9 U
SB29	SB29-12.0-20171114	11/14/2017	N	5.39	12	< 20.8 U	< 7.21 U	< 38.4 U	< 11.6 U	< 30.4 U
SB29	SB29-17.0-20171114	11/14/2017	N	5.39	17	< 18.6 U	< 6.43 U	< 34.3 U	< 10.4 U	< 27.2 U
SB29	SB29-22.0-20171114	11/14/2017	N	5.39	22	< 18.7 U	< 6.46 U	< 34.5 U	< 10.4 U	< 27.3 U
SB29	SB29-27.0-20171114	11/14/2017	N	5.39	27	< 20.0 U	< 6.94 U	< 37.0 U	< 11.2 U	< 29.3 U
SB29	SBDUP-03-20171114	11/14/2017	FD	5.39	27	< 18.2 U	< 6.31 U	< 33.7 U	< 10.2 U	< 26.6 U
SB29	SB29-32.0-20171114	11/14/2017	N	5.39	32	< 19.5 U	< 6.74 U	< 35.9 U	< 10.9 U	< 28.5 U
SB29	SB29-37.0-20171114	11/14/2017	N	5.39	37	< 21.7 U	< 7.49 U	< 40.0 U	< 12.1 U	< 31.6 U
SB29	SB29-42.0-20171114	11/14/2017	N	5.39	42	< 19.1 U	< 6.61 U	< 35.3 U	< 10.7 U	< 27.9 U
SB29	SB29-47.0-20171114	11/14/2017	N	5.39	47	< 19.5 U	< 6.76 U	< 36.0 U	< 10.9 U	< 28.5 U
SB29	SB29-50.2-20171114	11/14/2017	N	5.39	50.2	< 21.5 U	< 7.44 U	< 39.7 U	< 12.0 U	< 31.4 U
SB29	SB29-51.0-20171114	11/14/2017	N	5.39	51	< 18.9 U	< 6.54 U	< 34.9 U	< 10.5 U	< 27.6 U
SB29	SB29-52.7-20171114	11/14/2017	N	5.39	52.7	< 19.2 U	< 6.65 U	< 35.5 U	< 10.7 U	< 28.1 U
SB30	SB30-0.7-2-20171115	11/15/2017	N	3.68	0.7-2	< 26.5 U	**164**	< 48.9 U	< 14.8 U	< 38.7 U
SB30	SB30-5.3-20171115	11/15/2017	N	3.68	5.3	< 19.6 U	**241 J**	**61.9**	< 10.9 U	< 28.7 U
SB30	SB30-7.3-20171115	11/15/2017	N	3.68	7.3	< 21.1 U	**1110**	**191**	< 11.8 U	< 30.9 U
SB30	SB30-11.3-20171115	11/15/2017	N	3.68	11.3	< 20.9 U	**1680**	**71.6**	< 11.7 U	< 30.6 U
SB30	SB30-12.3-20171115	11/15/2017	N	3.68	12.3	< 17.9 U	**1180**	**40.6**	< 9.97 U	< 26.1 U
SB30	SB30-15.3-20171115	11/15/2017	N	3.68	15.3	< 18.4 U	**866**	< 34.0 U	< 10.3 U	< 26.9 U
SB30	SB30-20.3-20171115	11/15/2017	N	3.68	20.3	< 18.3 U	**724**	< 33.8 U	< 10.2 U	< 26.8 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB30	SB30-25.3-20171115	11/15/2017	N	3.68	25.3	< 18.0 U	**311**	< 33.2 U	< 10.0 U	< 26.3 U
SB30	SB30-26.7-20171115	11/15/2017	N	3.68	26.7	< 18.0 U	**287**	< 33.2 U	< 10.0 U	< 26.3 U
SB30	SBDUP-01-20171115	11/15/2017	FD	3.68	26.7	< 17.3 U	**438**	< 31.9 U	< 9.65 U	< 25.3 U
SB31	SB31-0.5-2.0-20171115	11/15/2017	N	3.68	0.5-2	< 22.8 U	< 7.90 U	< 42.1 U	< 12.7 U	< 33.4 U
SB31	SB31-6.3-20171115	11/15/2017	N	3.68	6.3	< 21.0 U	< 7.28 U	< 38.8 U	< 11.7 U	< 30.7 U
SB31	SB31-7.8-20171115	11/15/2017	N	3.68	7.8	< 18.5 U	< 6.39 U	< 34.1 U	< 10.3 U	< 27.0 U
SB31	SB31-8.5-20171115	11/15/2017	N	3.68	8.5	< 19.5 U	< 6.76 U	< 36.1 U	< 10.9 U	< 28.5 U
SB31	SB31-13.0-20171115	11/15/2017	N	3.68	13	< 18.1 U	< 6.27 U	< 33.4 U	< 10.1 U	< 26.5 U
SB31	SB31-18.0-20171115	11/15/2017	N	3.68	18	< 17.5 U	< 6.05 UJ	< 32.3 U	< 9.75 U	< 25.5 UJ
SB31	SB31-20.5-20171115	11/15/2017	N	3.68	20.5	< 21.0 U	< 7.27 U	< 38.8 U	< 11.7 U	< 30.7 U
SB31	SB31-24.5-20171115	11/15/2017	N	3.68	24.5	< 17.3 U	< 5.97 U	< 31.8 U	< 9.62 U	< 25.2 U
SB31	SB31-29.0-20171115	11/15/2017	N	3.68	29	< 18.2 U	< 6.31 U	< 33.6 U	< 10.2 U	< 26.6 U
SB31	SBDUP-03-20171115	11/15/2017	FD	3.68	29	< 19.4 U	< 6.70 U	< 35.8 U	< 10.8 U	< 28.3 U
SB31	SB31-30.7-20171115	11/15/2017	N	3.68	30.7	< 17.6 U	< 6.09 U	< 32.5 U	< 9.82 U	< 25.7 U
SB32	SB32-1.5-20171119	11/19/2017	N	5.46	1.5	< 20.7 U	< 7.15 U	< 38.2 U	< 11.5 U	< 30.2 U
SB32	SB32-5.0-20171119	11/19/2017	N	5.46	5	< 21.3 U	< 7.38 U	< 39.4 U	< 11.9 U	< 31.2 U
SB32	SB32-10.5-20171119	11/19/2017	N	5.46	10.5	< 19.6 U	< 6.78 U	< 36.2 U	< 10.9 U	< 28.6 U
SB32	SB32-15.0-20171119	11/19/2017	N	5.46	15	< 19.3 U	< 6.67 U	< 35.6 U	< 10.8 U	< 28.2 U
SB32	SB32-20.0-20171119	11/19/2017	N	5.46	20	< 21.8 U	< 7.55 U	< 40.2 U	< 12.2 U	< 31.9 U
SB32	SBDUP-01-20171119	11/19/2017	FD	5.46	20	< 20.4 U	< 7.06 U	< 37.7 U	< 11.4 U	< 29.8 U
SB32	SB32-25.0-20171119	11/19/2017	N	5.46	25	< 18.2 U	< 6.30 U	< 33.6 U	< 10.2 U	< 26.6 U
SB32	SB32-29.5-20171119	11/19/2017	N	5.46	29.5	< 19.7 U	< 6.81 U	< 36.3 U	< 11.0 U	< 28.7 U
SB33	SB33-5.0-20171119	11/19/2017	N	2.71	5	< 22.7 U	< 7.87 U	< 42.0 U	< 12.7 U	< 33.2 UJ
SB33	SB33-10.0-20171119	11/19/2017	N	2.71	10	< 19.4 U	< 6.70 U	< 35.7 U	< 10.8 U	< 28.3 UJ
SB33	SB33-15.0-20171119	11/19/2017	N	2.71	15	< 16.6 U	< 5.75 U	< 30.7 U	< 9.27 U	< 24.3 UJ
SB33	SB33-20.0-20171119	11/19/2017	N	2.71	20	< 19.1 U	< 6.60 U	< 35.2 U	< 10.6 U	< 27.9 UJ
SB33	SBDUP-03-20171119	11/19/2017	FD	2.71	20	< 16.5 U	< 5.73 U	< 30.5 U	< 9.23 U	< 24.2 UJ
SB33	SB33-25.0-20171119	11/19/2017	N	2.71	25	< 20.2 U	< 6.99 U	< 37.3 U	< 11.3 U	< 29.5 UJ
SB33	SB33-29.0-20171119	11/19/2017	N	2.71	29	< 19.6 U	< 6.79 U	< 36.2 U	< 10.9 U	< 28.7 UJ
SB34	SB34-0.5-2.0-20171119	11/19/2017	N	3.68	0.5-2	< 22.4 U	< 7.75 U	< 41.3 U	< 12.5 U	< 32.7 U
SB34	SB34-5.0-20171119	11/19/2017	N	3.68	5	< 23.5 U	< 8.14 U	**57.4**	< 13.1 U	< 34.4 U
SB34	SB34-9.0-20171119	11/19/2017	N	3.68	9	< 23.3 U	**839**	**230**	< 13.0 U	< 34.0 U
SB34	SB34-14.5-20171119	11/19/2017	N	3.68	14.5	< 16.6 U	**1010**	**270**	< 9.28 U	< 24.3 U
SB34	SB34-17.0-20171119	11/19/2017	N	3.68	17	< 19.4 U	**2140**	**106**	< 10.8 U	< 28.3 U
SB34	SB34-19.0-20171119	11/19/2017	N	3.68	19	**18.9 J**	**3970**	**153**	< 9.46 U	< 24.8 U
SB34	SB34-20.5-20171119	11/19/2017	N	3.68	20.5	**25.7 J**	**4910**	**161**	< 10.2 U	< 26.7 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB34	SBDUP-02-20171119	11/19/2017	FD	3.68	20.5	**31.3 J**	**5800**	**182**	< 10.4 U	< 27.3 U
SB34	SB34-25.0-20171119	11/19/2017	N	3.68	25	**21.1 J**	**28500**	**74.5**	< 10.0 U	< 26.3 U
SB34	SB34-27.5-20171119	11/19/2017	N	3.68	27.5	**19.0 J**	**81200**	**46.5**	< 10.2 U	< 26.8 U
SB34	SB34-29.5-20171119	11/19/2017	N	3.68	29.5	**20.8 J**	**78000**	**54.8**	< 11.2 U	< 29.3 U
SB34	SB34-32.0-20171119	11/19/2017	N	3.68	32	< 19.9 U	**38000**	< 36.7 U	< 11.1 U	< 29.1 U
SB34	SB34-35.0-20171119	11/19/2017	N	3.68	35	< 17.9 U	**28200**	< 33.0 U	< 9.97 U	< 26.1 U
SB34	SB34-36.5-20171119	11/19/2017	N	3.68	36.5	< 16.1 U	**34000**	< 29.7 U	< 8.97 U	< 23.5 U
SB34	SB34-37.5-20171119	11/19/2017	N	3.68	37.5	< 18.2 U	**39400**	< 33.6 U	< 10.1 U	< 26.6 U
SB34	SB34-40.0-20171119	11/19/2017	N	3.68	40	< 17.5 U	**37900**	< 32.4 U	< 9.77 U	< 25.6 U
SB34	SB34-42.0-20171119	11/19/2017	N	3.68	42	< 18.7 U	**43300**	< 34.6 U	< 10.4 U	< 27.4 U
SB34	SB34-42.5-20171119	11/19/2017	N	3.68	42.5	< 20.0 U	**37500**	< 36.9 U	< 11.1 U	< 29.2 U
SB34	SB34-44.5-20171119	11/19/2017	N	3.68	44.5	< 21.2 U	**23900**	< 39.1 U	< 11.8 U	< 31.0 U
SB34	SB34-47.5-20171119	11/19/2017	N	3.68	47.5	< 20.4 U	**5380**	< 37.8 U	< 11.4 U	< 29.9 UJ
SB34	SB34-48.5-20171119	11/19/2017	N	3.68	48.5	< 23.1 U	**2940**	< 42.7 U	< 12.9 U	< 33.8 U
SB34	SB34-52.0-20171119	11/19/2017	N	3.68	52	< 22.7 U	**151**	< 41.9 U	< 12.7 U	< 33.2 U
SB34	SB34-57.0-20171119	11/19/2017	N	3.68	57	< 20.3 U	< 7.03 U	< 37.5 U	< 11.3 U	< 29.7 U
SB35	SB35-1.0-2.0-20171120	11/20/2017	N	3.68	1-2	< 21.9 U	< 7.60 U	< 40.5 U	< 12.2 U	< 32.1 UJ
SB35	SB35-6.0-20171120	11/20/2017	N	3.68	6	< 23.1 U	< 8.00 U	< 42.7 U	< 12.9 U	< 33.8 UJ
SB35	SB35-10.0-20171120	11/20/2017	N	3.68	10	< 20.1 U	**14500**	**2320**	**13.9 J**	**265 J**
SB35	SB35-12.5-20171120	11/20/2017	N	3.68	12.5	< 18.9 U	**24600 J**	**4190**	**21.8 J**	**342 J**
SB35	SB35-15.0-20171120	11/20/2017	N	3.68	15	< 185 U	**20200**	**2690**	< 103 U	< 271 UJ
SB35	SB35-16.5-20171120	11/20/2017	N	3.68	16.5	< 17.6 U	**27900 J**	**3920**	**21.4 J**	**292 J**
SB35	SB35-20.0-20171120	11/20/2017	N	3.68	20	< 18.1 U	**14600**	**1310**	< 10.1 U	**105 J**
SB35	SB35-22.0-20171120	11/20/2017	N	3.68	22	< 18.5 U	**26800 J**	**1730**	**12.8 J**	**167 J**
SB35	SB35-24.5-20171120	11/20/2017	N	3.68	24.5	< 172 U	**65100**	**439**	< 95.8 U	< 251 UJ
SB35	SB35-27.0-20171120	11/20/2017	N	3.68	27	< 19.1 U	**31700 J**	**1350**	**11.0 J**	**145 J**
SB35	SB35-29.5-20171120	11/20/2017	N	3.68	29.5	< 199 U	**133000**	< 368 U	< 111 U	< 291 UJ
SB35	SB35-30.5-20171120	11/20/2017	N	3.68	30.5	< 200 U	**121000**	< 368 U	< 111 U	< 292 UJ
SB35	SB35-33.0-20171120	11/20/2017	N	3.68	33	< 21.6 U	**43700 J**	< 39.9 U	< 12.1 U	< 31.6 UJ
SB35	SB35-35.5-20171120	11/20/2017	N	3.68	35.5	< 16.8 U	**14800**	< 31.0 U	< 9.36 U	< 24.5 UJ
SB35	SBDUP-02-20171120	11/20/2017	FD	3.68	35.5	< 16.7 U	**14500**	< 30.9 U	< 9.33 U	< 24.4 U
SB35	SB35-39.5-20171120	11/20/2017	N	3.68	39.5	< 18.3 U	**170**	< 33.8 U	< 10.2 U	< 26.8 UJ
SB35	SB35-40.5-20171120	11/20/2017	N	3.68	40.5	< 19.8 U	**95.1**	< 36.5 U	< 11.0 U	< 28.9 UJ
SB35	SB35-46.0-20171120	11/20/2017	N	3.68	46	< 20.8 U	**76.1**	< 38.5 U	< 11.6 U	< 30.4 U
SB35	SB35-51.0-20171120	11/20/2017	N	3.68	51	< 19.4 U	**110**	< 35.8 U	< 10.8 U	< 28.3 U
SB35	SB35-52.8-20171120	11/20/2017	N	3.68	52.8	< 26.6 U	**29.6 J**	< 49.0 U	< 14.8 U	< 38.8 U

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ARCADIS Design & Consultancy for natural and built assets

Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB36	SB36-1.0-2.0-20171128	11/28/2017	N	2.22	1-2	< 240 U	**175 J**	< 443 U	< 134 U	< 350 U
SB36	SB36-5.0-20171128	11/28/2017	N	2.22	5	< 23.1 U	< 7.99 U	< 42.6 U	< 12.9 U	< 33.7 U
SB36	SBDUP-02-20171128	11/28/2017	FD	2.22	5	< 20.1 U	**2180**	**212**	< 11.2 U	**36.7 J**
SB36	SB36-10.0-20171128	11/28/2017	N	2.22	10	< 19.0 U	**363**	**90.7**	< 10.6 U	< 27.8 U
SB36	SB36-12.0-20171128	11/28/2017	N	2.22	12	< 19.7 U	**2160**	**260**	< 11.0 U	< 28.7 U
SB36	SB36-13.5-20171128	11/28/2017	N	2.22	13.5	< 17.3 U	**1680**	**172 J**	< 9.66 UJ	< 25.3 UJ
SB36	SB36-17.0-20171128	11/28/2017	N	2.22	17	< 19.4 U	**2700**	**252**	< 10.8 U	< 28.4 U
SB36	SB36-20.0-20171128	11/28/2017	N	2.22	20	< 19.1 U	**1530**	**92.6**	< 10.7 U	< 27.9 U
SB36	SB36-23.5-20171128	11/28/2017	N	2.22	23.5	< 20.7 U	**1830**	**50.1**	< 11.5 U	< 30.2 U
SB36	SB36-27.5-20171128	11/28/2017	N	2.22	27.5	< 19.1 U	**435**	< 35.3 U	< 10.7 U	< 27.9 U
SB36	SB36-28.5-20171128	11/28/2017	N	2.22	28.5	< 19.4 U	**377**	< 35.8 U	< 10.8 U	< 28.4 U
SB36	SB36-31.0-20171128	11/28/2017	N	2.22	31	< 19.5 U	**101**	< 36.1 U	< 10.9 U	< 28.6 U
SB36	SB36-36.0-20171128	11/28/2017	N	2.22	36	< 20.0 U	< 6.93 U	< 36.9 U	< 11.2 U	< 29.2 U
SB36	SB36-41.0-20171128	11/28/2017	N	2.22	41	< 18.1 U	< 6.28 U	< 33.5 U	< 10.1 U	< 26.5 U
SB36	SB36-45.5-20171128	11/28/2017	N	2.22	45.5	< 21.8 U	< 7.55 U	< 40.3 U	< 12.2 U	< 31.9 U
SB36	SB36-46.0-20171128	11/28/2017	N	2.22	46	< 21.0 U	< 7.28 U	< 38.8 U	< 11.7 U	< 30.7 U
SB36	SB36-46.5-20171128	11/28/2017	N	2.22	46.5	< 21.1 U	< 7.32 U	< 39.0 U	< 11.8 U	< 30.9 U
SB37	SB37-0.0-2.0-20171129	11/29/2017	N	4.84	0-2	< 25.4 U	< 8.80 U	< 46.9 U	< 14.2 U	< 37.2 U
SB37	SB37-5.7-20171129	11/29/2017	N	4.84	5.7	< 24.1 U	< 8.35 U	< 44.5 U	< 13.5 U	< 35.3 U
SB37	SB37-7.0-20171129	11/29/2017	N	4.84	7	< 21.6 U	< 7.47 U	< 39.8 U	< 12.0 U	< 31.5 U
SB37	SBDUP-02-20171129	11/29/2017	FD	4.84	7	< 19.0 U	< 6.56 U	< 35.0 U	< 10.6 U	< 27.7 U
SB37	SB37-9.0-20171129	11/29/2017	N	4.84	9	< 23.1 U	< 8.01 U	< 42.7 U	< 12.9 U	< 33.8 U
SB37	SB37-9.7-20171129	11/29/2017	N	4.84	9.7	< 21.6 U	< 7.49 U	< 40.0 U	< 12.1 U	< 31.6 U
SB37	SB37-12.0-20171129	11/29/2017	N	4.84	12	< 22.0 U	**41.0 J**	< 40.6 U	< 12.3 U	< 32.1 U
SB37	SB37-14.0-20171129	11/29/2017	N	4.84	14	< 31.1 U	**296**	< 57.4 U	< 17.3 U	**72.3**
SB37	SB37-17.0-20171129	11/29/2017	N	4.84	17	< 19.1 U	< 6.61 U	< 35.3 U	< 10.7 U	< 27.9 U
SB37	SB37-22.0-20171129	11/29/2017	N	4.84	22	< 19.2 U	< 6.65 U	< 35.5 U	< 10.7 U	< 28.1 U
SB37	SB37-24.7-20171129	11/29/2017	N	4.84	24.7	< 16.7 U	< 5.80 U	< 30.9 U	< 9.34 U	< 24.5 U
SB38	SB38-0.8-2.0-20171129	11/29/2017	N	10.04	0.8-2	< 24.9 U	< 8.63 U	< 46.0 U	< 13.9 U	< 36.4 U
SB38	SB38-5.3-20171129	11/29/2017	N	10.04	5.3	< 23.6 U	< 8.17 U	< 43.6 U	< 13.2 U	< 34.5 U
SB38	SB38-5.7-20171129	11/29/2017	N	10.04	5.7	< 23.8 U	< 8.25 U	< 44.0 U	< 13.3 U	< 34.8 U
SB38	SB38-6.7-20171129	11/29/2017	N	10.04	6.7	< 22.5 U	< 7.78 U	< 41.5 U	< 12.5 U	< 32.9 U
SB38	SB38-7.2-20171129	11/29/2017	N	10.04	7.2	< 25.4 U	< 8.80 U	< 46.9 U	< 14.2 U	< 37.2 U
SB38	SB38-8.7-20171129	11/29/2017	N	10.04	8.7	< 21.9 U	< 7.57 U	< 40.4 U	< 12.2 U	< 32.0 U
SB38	SB38-11.8-20171129	11/29/2017	N	10.04	11.8	< 17.8 U	< 6.16 U	< 32.8 U	< 9.92 U	< 26.0 U
SB38	SB38-14.5-20171129	11/29/2017	N	10.04	14.5	< 18.6 U	**2130**	**347**	< 10.4 U	< 27.2 U

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Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB38	SB38-16-20171129	11/29/2017	N	10.04	16	< 19.7 U	**2700**	**526**	< 11.0 U	< 28.9 U
SB38	SB38-19.6-20171129	11/29/2017	N	10.04	19.6	< 18.9 U	**4320**	**676**	< 10.5 U	< 27.6 U
SB38	SB38-19.9-20171129	11/29/2017	N	10.04	19.9	< 19.5 U	**2270**	**491**	< 10.9 U	< 28.5 U
SB38	SB38-21.3-20171129	11/29/2017	N	10.04	21.3	< 213 U	**7240**	**1230**	< 119 U	< 311 U
SB38	SBDUP-3-20171129	11/29/2017	FD	10.04	21.3	**28.7 J**	**7920**	**1170**	< 10.8 U	< 28.3 U
SB38	SB38-22.7-20171129	11/29/2017	N	10.04	22.7	**22.8 J**	**10100**	**805**	< 12.0 U	< 31.5 U
SB38	SB38-23.0-20171129	11/29/2017	N	10.04	23	**26.2 J**	**11300**	**734**	< 11.0 U	< 28.9 U
SB38	SB38-24.9-20171129	11/29/2017	N	10.04	24.9	< 20.0 U	**10400**	**527**	< 11.1 U	< 29.2 U
SB39	SB39-0.8-2.0-20171129	11/29/2017	N	3.68	0.8-2	< 21.4 U	< 7.41 U	< 39.5 U	< 11.9 U	< 31.3 U
SB39	SB39-5.7-20171129	11/29/2017	N	3.68	5.7	< 20.1 U	**33.2 J**	< 37.1 U	< 11.2 U	< 29.3 U
SB39	SB39-9.0-20171129	11/29/2017	N	3.68	9	< 20.5 U	**214**	< 37.8 U	< 11.4 U	< 29.9 U
SB39	SB39-11.3-20171129	11/29/2017	N	3.68	11.3	< 19.1 U	**209**	< 35.3 U	< 10.7 U	< 28.0 U
SB39	SB39-11.7-20171129	11/29/2017	N	3.68	11.7	< 18.8 U	**307**	< 34.7 U	< 10.5 U	< 27.5 U
SB39	SB39-16.5-20171129	11/29/2017	N	3.68	16.5	< 19.7 UJ	**266 J**	< 36.5 U	< 11.0 U	< 28.9 UJ
SB39	SB39-19.0-20171129	11/29/2017	N	3.68	19	< 19.2 U	**224**	< 35.4 U	< 10.7 U	< 28.1 U
SB39	SB39-22.3-20171129	11/29/2017	N	3.68	22.3	< 18.1 U	**126**	< 33.5 U	< 10.1 U	< 26.5 U
SB39	SBDUP-4-20171129	11/29/2017	FD	3.68	22.3	< 17.9 U	**105**	< 33.0 U	< 9.96 U	< 26.1 U
SB40	SB40-1.0-2.0-20171130	11/30/2017	N	2.22	1-2	< 22.5 U	< 7.78 U	< 41.5 U	< 12.5 U	< 32.9 U
SB40	SB40-5.0-20171130	11/30/2017	N	2.22	5	< 24.7 U	< 8.56 U	< 45.6 U	< 13.8 U	< 36.1 U
SB40	SB40-7.0-20171130	11/30/2017	N	2.22	7	< 20.6 U	< 7.13 U	< 38.0 U	< 11.5 U	< 30.1 U
SB40	SB40-12.0-20171130	11/30/2017	N	2.22	12	< 20.7 U	**575**	**281**	**13.5 J**	< 30.2 U
SB40	SBDUP-01-20171130	11/30/2017	FD	2.22	12	< 19.6 U	**1340**	**248**	< 10.9 U	**69.7**
SB40	SB40-14.5-20171130	11/30/2017	N	2.22	14.5	< 18.6 U	**1760**	**373**	**11.1 J**	< 27.1 U
SB40	SB40-17.0-20171130	11/30/2017	N	2.22	17	< 21.2 U	**3440**	**503**	< 11.9 U	< 31.1 U
SB40	SB40-19.5-20171130	11/30/2017	N	2.22	19.5	< 20.7 U	**3470**	**252**	< 11.6 U	< 30.3 U
SB40	SB40-21.5-20171130	11/30/2017	N	2.22	21.5	< 21.3 U	**2760**	**124**	< 11.9 U	< 31.1 U
SB40	SB40-24.0-20171130	11/30/2017	N	2.22	24	< 20.0 U	**1310**	< 37.0 U	< 11.2 U	< 29.3 U
SB40	SB40-27.0-20171130	11/30/2017	N	2.22	27	< 20.3 U	**1140**	< 37.5 U	< 11.3 U	< 29.7 U
SB40	SB40-30.0-20171130	11/30/2017	N	2.22	30	< 17.9 U	**994**	< 33.1 U	< 9.99 U	< 26.2 U
SB40	SB40-32.0-20171130	11/30/2017	N	2.22	32	< 18.8 U	**168**	< 34.7 U	< 10.5 U	< 27.5 U
SB40	SB40-37.0-20171130	11/30/2017	N	2.22	37	< 18.4 U	< 6.36 U	< 33.9 U	< 10.3 U	< 26.9 U
SB40	SB40-42.0-20171130	11/30/2017	N	2.22	42	< 19.0 U	< 6.57 U	< 35.0 U	< 10.6 U	< 27.7 U
SB40	SB40-46.0-20171130	11/30/2017	N	2.22	46	< 20.8 U	< 7.22 U	< 38.5 U	< 11.6 U	< 30.5 U
SB40	SB40-46.5-20171130	11/30/2017	N	2.22	46.5	< 24.8 U	< 8.59 U	< 45.8 U	< 13.8 U	< 36.3 U
SB40	SB40-46.7-20171130	11/30/2017	N	2.22	46.7	< 18.6 U	< 6.45 U	< 34.4 U	< 10.4 U	< 27.2 U
SB40	SB40-47.0-20171130	11/30/2017	N	2.22	47	< 21.2 U	< 7.35 U	< 39.2 U	< 11.8 U	< 31.0 U

Notes are presented on page 17

Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					
SB40	SB40-49.0-20171130	11/30/2017	N	2.22	49	< 20.8 U	< 7.21 U	< 38.4 U	< 11.6 U	< 30.4 U
SB40	SB40-51.0-20171130	11/30/2017	N	2.22	51	< 22.8 U	< 7.88 U	< 42.0 U	< 12.7 U	< 33.3 U
SB40	SB40-52.0-20171130	11/30/2017	N	2.22	52	< 21.1 U	< 7.30 U	< 38.9 U	< 11.8 U	< 30.8 U
SB41	SB41-0.1-2.0-20171130	11/30/2017	N	0.75	0.1-2	< 25.1 U	< 8.69 U	< 46.3 U	< 14.0 U	< 36.7 U
SB41	SB41-5.7-20171130	11/30/2017	N	0.75	5.7	< 24.4 U	< 8.45 U	< 45.1 U	< 13.6 U	< 35.7 U
SB41	SB41-8.0-20171130	11/30/2017	N	0.75	8	< 21.0 U	< 7.29 U	< 38.9 U	< 11.7 U	< 30.8 U
SB41	SB41-13.0-20171130	11/30/2017	N	0.75	13	< 23.1 U	< 8.01 U	< 42.7 U	< 12.9 U	< 33.8 U
SB41	SB41-18.0-20171130	11/30/2017	N	0.75	18	< 20.2 U	< 6.99 U	< 37.3 U	< 11.3 U	< 29.5 U
SB41	SBDUP-02-20171130	11/30/2017	FD	0.75	18	< 19.5 U	< 6.76 U	< 36.0 U	< 10.9 U	< 28.5 U
SB41	SB41-20.5-20171130	11/30/2017	N	0.75	20.5	< 19.8 U	< 6.86 U	< 36.6 U	< 11.1 U	< 29.0 U
SB41	SB41-24.7-20171130	11/30/2017	N	0.75	24.7	< 21.7 U	< 7.51 U	< 40.1 U	< 12.1 U	< 31.7 U
SB42	SB42-0.1-2.0-20171130	11/30/2017	N	7.16	0.1-2	< 24.5 U	< 8.49 U	< 45.3 U	< 13.7 U	< 35.8 U
SB42	SB42-5.0-20171130	11/30/2017	N	7.16	5	< 17.8 U	< 6.17 U	< 32.9 U	< 9.94 U	< 26.0 U
SB42	SB42-7.5-20171130	11/30/2017	N	7.16	7.5	< 23.4 U	**986 J**	**558 J**	< 13.0 U	< 34.2 UJ
SB42	SB42-8.5-20171130	11/30/2017	N	7.16	8.5	< 20.4 U	**1200**	**715**	< 11.4 U	< 29.9 U
SB42	SB42-11.5-20171130	11/30/2017	N	7.16	11.5	< 18.8 U	**2250**	**1070**	< 10.5 U	< 27.5 U
SB42	SB42-13.0-20171130	11/30/2017	N	7.16	13	< 18.1 U	**2510**	**1260**	< 10.1 U	< 26.5 U
SB42	SB42-16.5-20171130	11/30/2017	N	7.16	16.5	< 22.5 U	**4800**	**902**	< 12.5 U	< 32.9 U
SB42	SB42-18.5-20171130	11/30/2017	N	7.16	18.5	< 21.3 U	**4950**	**634**	< 11.9 U	**49.5**
SB42	SB42-22.5-20171130	11/30/2017	N	7.16	22.5	< 23.7 U	**469**	**106**	< 13.2 U	< 34.6 U
SB42	SB42-27.5-20171130	11/30/2017	N	7.16	27.5	< 17.3 U	**5970**	**74.2**	< 9.65 U	< 25.3 U
SB42	SB42-29.5-20171201	12/1/2017	N	7.16	29.5	< 17.9 U	**4420**	**43.3**	< 9.96 U	< 26.1 U
SB42	SB42-31.0-20171201	12/1/2017	N	7.16	31	< 19.4 U	**3180**	**95.4**	< 10.8 U	< 28.3 U
SB42	SB42-33.0-20171201	12/1/2017	N	7.16	33	< 23.6 U	**2910**	**171**	< 13.1 U	< 34.4 U
SB42	SB42-36.5-20171201	12/1/2017	N	7.16	36.5	< 18.4 U	**367**	< 34.0 U	< 10.3 U	< 27.0 U
SB42	SB42-39.0-20171201	12/1/2017	N	7.16	39	< 21.0 U	**422**	< 38.8 U	< 11.7 U	< 30.7 U
SB42	SB42-39.9-20171201	12/1/2017	N	7.16	39.9	< 19.2 U	**461**	< 35.5 U	< 10.7 U	< 28.1 U
SB42	SB42-40.0-20171201	12/1/2017	N	7.16	40	< 18.3 U	**506**	< 33.8 U	< 10.2 U	< 26.8 U
SB43	SB43-0.1-2.0-20171201	12/1/2017	N	2.22	1-2	< 33.1 U	< 13.7 U	< 10.2 U	< 11.3 U	< 21.1 U
SB43	SB43-5.7-20171201	12/1/2017	N	2.22	5.7	< 44.3 UJ	< 18.4 UJ	< 13.7 UJ	< 15.1 UJ	< 28.3 UJ

Notes are presented on page 17

Table 3. Analytical Results for CVOCs in Soil from Borings - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)					

Notes:
Soil samples were analyzed onsite by Cascade mobile laboratory for Method 8260C Volatile Organics by GC/MS.
Detections are boldfaced
Letter suffix in sample name indicates a sample collected from a stepped-over adjacent soil boring (e.g. samples collected from SB03A are adjacent to the SB03 borehole)
CASRN - Chemical Abstracts Service Registry Number
N - Normal Sample
FD - Field Duplicate
ft - feet
ug/kg - micrograms per kilogram
< 13.7 U - Constituent was not detected at or above the indicated method detection limit.
J - Result is considered to be estimated at the value reported.
UB – Non-detect at the sample concentration due to associated blank contamination.
UJ - Result is considered not detected but estimated due to QC deficiencies.

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Table 4. Analytical Results for Total Organic Carbon in Soil from Borings - 2017 (Fixed Lab)
Toastmaster Macon Site, Macon, Missouri

						Chemical	Total Organic Carbon
						Fraction	N
						Unit	g/g
Area	Location	Sample ID	Sample Date	Sample Type	Predominant Soil Grain Size	Sample Depth (ft)	
Eastern Side of Site	SB12A	SB12A-48.0-48.3-20171107	11/7/2017	N	Sand and silt	48-48.3	< 0.000194 UH3
Northern Property Boundary	SB06A	SB06A-26.0-28.0-20171116	11/16/2017	N	Sand	26-28	< 0.000193 U
Northern Property Boundary	SB41	SB41-18.0-19.0-20171130	11/30/2017	N	Clay	18-19	**0.00165**
Site Building Interior	SB23	SB23-22.5-23.5-20171108	11/8/2017	N	Clay	22.5-23.5	**0.00124 H3**
Site Building Interior	SB25	SB25-7.5-8.5-20171114	11/14/2017	N	Silt	7.5-8.5	**0.00239**
Site Building Interior	SB25	SB25-30.0-31.5-20171115	11/15/2017	N	Clay	30-31.5	**0.00152**
Western Side of Site	SB36	SB36-45.5-45.7-20171128	11/28/2017	N	Sand	45.5-45.7	< 0.000193 U

Notes: Soil samples were analyzed by Pace Lab, Lenexa, KS for Method 8260C Volatile Organics by GC/MS
Detections are boldfaced
< Not detected at or above the method detection limit, as shown.
N - Normal Sample
FD - Field Duplicate
ft - feet
g/g - grams per gram
U - non-detect
UH3 - Non-detect. Sample was received or analysis requested beyond the recognized method holding time.
H3 - Sample was received or analysis requested beyond the recognized method holding time.

Table 5. Analytical Results for CVOCs in Groundwater from Borings and Monitoring Wells - 2017 (Mobile Lab)
Toastmaster Macon Site, Macon, Missouri

						Chemical	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
						Unit	ug/L	ug/L	ug/L	ug/L	ug/L
Area	Location	Sample ID	Sample Date	Sample Type	Encountered Hydrofacies	Sample Depth (ft)					
Eastern Side of Site	GB12A	GB12A-53.0-20171107	11/7/2017	N	Storage	53	< 0.800 U	**0.460 J**	< 0.570 U	< 0.160 U	< 0.610 U
Eastern Side of Site	GB13A	GB13A-47.7-20171115	11/15/2017	N	Transport	47.7	< 0.800 U	**0.910 J**	< 0.570 U	< 0.160 U	< 0.610 U
Eastern Side of Site	GB22	GB22-46.5-20171108	11/8/2017	N	Storage	46.5	< 0.800 U	**74.7**	**15.6**	**0.330 J**	< 0.610 U
Eastern Side of Site	GB27	GB27-5.5-20171113	11/13/2017	N	Transport	5.5	< 0.800 U	< 0.220 U	< 0.570 U	< 0.160 U	< 0.610 U
Eastern Side of Site	GB28	GB28-20.0-20171118	11/18/2017	N	Storage	20	**17.4 J**	**93800**	**2300**	**18.5 J**	**183**
Eastern Side of Site	GB29	GB29-6.0-20171114	11/14/2017	N	Storage	6	< 0.800 U	< 0.220 U	< 0.570 U	< 0.160 U	< 0.610 U
Eastern Side of Site	GB29	GB29-53.4-20171115	11/15/2017	N	Transport	53.4	< 0.800 U	< 0.220 U	< 0.570 U	< 0.160 U	< 0.610 U
Northern Property Boundary	GB01	GB01-2.5-20171101	11/1/2017	N	Storage	2.5	< 0.800 U	< 0.220 U	< 0.570 U	< 0.160 U	< 0.610 U
Northern Property Boundary	GB04	GB04-24.0-20171102	11/2/2017	N	Transport	24	< 0.800 U	**717**	**3.78**	< 0.160 U	< 0.610 U
Northern Property Boundary	GB04	GB04-27.2-20171102	11/2/2017	N	Transport	27.2	< 0.800 U	**690**	**4.22**	< 0.160 U	< 0.610 U
Northern Property Boundary	GB04	GBDUP-01-20171102	11/2/2017	FD	Transport	27.2	< 0.800 U	**702**	**4.45**	< 0.160 U	< 0.610 U
Northern Property Boundary	GB04	GB04-28.5-20171102	11/2/2017	N	Storage	28.5	< 0.800 U	**698**	**4.04**	< 0.160 U	< 0.610 U
Northern Property Boundary	GB06	GB06-29.4-20171102	11/2/2017	N	Storage	29.4	< 0.800 U	**1.01**	< 0.570 U	< 0.160 U	< 0.610 U
Northern Property Boundary	GB06A	GB06A-26-20171116	11/16/2017	N	Transport	26	< 0.800 U	**0.570 J**	< 0.570 U	< 0.160 U	< 0.610 U
Northern Property Boundary	GB41	GB41-3.5-20171130	11/30/2017	N	Slow Advection	3.5	< 0.800 U	< 0.220 U	< 0.570 U	< 0.160 U	< 0.610 U
Site Building Interior	GB24	GB24-27.0-20171114	11/14/2017	N	Transport	27	< 0.800 U	**1090**	< 0.570 U	< 0.160 U	< 0.610 U
Site Building Interior	GB38	GB38-20.0-20171129	11/29/2017	N	Transport	20	**78.8**	**33400**	**7720**	**56.0**	**211**
Western Side of Site	GB03	GB03-64.50-65-20171102	11/2/2017	N	Transport	64.5-65	< 0.800 U	**57.7**	**0.860 J**	< 0.160 U	< 0.610 U
Western Side of Site	GB07	GB07-64-66.9-20171103	11/3/2017	N	Transport	64-66.9	< 0.800 U	**45.0**	**0.760 J**	< 0.160 U	< 0.610 U
Western Side of Site	GB11	GB11-56.5-20171104	11/4/2017	N	Transport	56.5	**1.67**	**6040**	**65.4**	**1.48**	**10.0**
Western Side of Site	GB15	GB15-20-20171105	11/5/2017	N	Storage	20	**8.37**	**109000**	**15900**	**61.4**	**1060 J**
Western Side of Site	GB15A	GB15A-46.5-20171129	11/29/2017	N	Transport	46.5	< 32.0 U	**19900**	< 22.8 U	< 6.40 U	< 24.4 U
Western Side of Site	GB15A	GB15A-48.0-20171129	11/29/2017	N	Transport	48	< 0.800 U	**1100**	**1.40**	< 0.160 U	< 0.610 U
Western Side of Site	GB35	GB35-52.8-20171120	11/20/2017	N	Transport	52.8	< 0.800 U	**155**	**1.32**	< 0.160 U	< 0.610 UJ
Western Side of Site	GB36	GB36-45.5-20171128	11/28/2017	N	Transport	45.5	< 0.800 U	**1.85**	< 0.570 U	< 0.160 U	< 0.610 U
Western Side of Site	GB40	GB40-50.5-20171130	11/30/2017	N	Transport	50.5	< 0.800 U	**3.71**	< 0.570 U	< 0.160 U	< 0.610 U
Western Side of Site	GB42	GB42-40.0-20171201	12/1/2017	N	Transport	40	< 32.0 U	**1830**	**104**	< 6.40 U	< 24.4 U
Western Side of Site	MW-2	MW-02-20171201	12/1/2017	N	--	38.5	< 80.0 U	**193000**	**208**	< 16.0 U	< 61.0 U
Western Side of Site	MW-3	MW-03-20171201	12/1/2017	N	--	64.5	< 8.00 U	**18900 J**	**108 J**	**18.2 J**	< 6.10 U
Western Side of Site	MW-3	DUP-01-20171201	12/1/2017	FD	--	64.5	< 32.0 U	**42800 J**	**235 J**	**50.8 J**	< 24.4 U
Western Side of Site	MW-4	MW-04-20171201	12/1/2017	N	--	56	< 0.800 U	**174**	**16.0**	< 0.160 U	< 0.610 U
Western Side of Site	MW-5	MW-05-20171201	12/1/2017	N	--	27.5	< 32.0 U	**27200**	**2540**	**11.2 J**	< 24.4 U
Western Side of Site	MW-6	MW-06-20171201	12/1/2017	N	--	42.5	< 0.800 U	**85.5**	**27.0**	**0.270 J**	< 0.610 U
Western Side of Site	MW-7	MW-07-20171201	12/1/2017	N	--	30	< 0.800 U	**1.64**	< 0.570 U	< 0.160 U	< 0.610 U
Western Side of Site	MW-22	MW-22-20171201	12/1/2017	N	--	46.6	< 0.800 U	**0.600 J**	< 0.570 U	< 0.160 U	< 0.610 U
Western Side of Site	MW-23	MW-23-20171201	12/1/2017	N	--	24	< 8.00 U	**6060**	**4150**	**6.00 J**	**146**
Western Side of Site	MW-25	MW-25-20171201	12/1/2017	N	--	68.8	< 0.800 U	**1.77**	**0.620 J**	< 0.160 U	< 0.610 U

Notes:
Detections are boldfaced
N - Normal Sample
FD - Field Duplicate
ft - feet
ug/L - micrograms per liter

Groundwater samples were analyzed onsite by Cascade mobile laboratory for Method 8260C Volatile Organics by GC/MS.
< 32.0 U - Constituent was not detected at or above the indicated method detection limit.
UJ - Result is considered not detected but estimated due to QC deficiencies.
J - Result is considered to be estimated at the value reported.

Table 6. Analytical Results for CVOCs in Soil from Borings - 2018-2019 (Fixed Lab)
Toastmaster Macon Site, Macon, Missouri

				Relative Water Table Depth	Chemical / CASRN / Unit	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Percent Moisture
					CASRN	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4	ARC-Moist
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	%
Location	Sample ID	Sample Date	Sample Type		Sample Depth (ft)						
SB28A	SBDUP01 -20180221	2/21/2018	FD	2.71	32.3	**828 J**	< 107 U	< 107 U	< 107 U	< 107 U	14.0
SB28A	SB28A-32.3 -20180221	2/21/2018	N	2.71	32.3	**2250 J**	< 105 U	< 105 UJ	< 105 UJ	< 105 U	13.7
SB28A	SB28A-37.3 -20180221	2/21/2018	N	2.71	37.3	**516**	< 108 U	< 108 UJ	< 108 UJ	< 108 U	14.8
SB28A	SB28A-41.0 -20180221	2/21/2018	N	2.71	41	**299**	< 108 U	< 108 UJ	< 108 UJ	< 108 U	15.4
SB28A	SB28A-46.8 -20180221	2/21/2018	N	2.71	46.8	**221 J**	< 132 U	< 132 UJ	< 132 UJ	< 132 U	13.6
SB44	SB44-0.5-2.0 (20180220)	2/20/2018	N	2.71	0.5-2	**4880**	< 121 U	< 121 U	< 121 U	< 121 U	20.2
SB44	SB44-5.3 (20180220)	2/20/2018	N	2.71	5.3	**26700**	< 112 U	< 112 U	< 112 U	< 112 U	18.0
SB44	SB44-9.5 (20180220)	2/20/2018	N	2.71	9.5	**13100**	< 123 U	< 123 U	< 123 U	< 123 U	19.5
SB44	SB44-14.8 (20180220)	2/20/2018	N	2.71	14.8	**123 J**	< 107 U	< 107 U	< 107 U	< 107 U	13.3
SB45	SB45-0.5-2.0 (20180220)	2/20/2018	N	2.71	0.5-2	**15000**	< 105 U	< 105 U	< 105 U	< 105 U	15.4
SB45	SB45-5.7 (20180220)	2/20/2018	N	2.71	5.7	**27000**	< 111 U	< 111 U	< 111 U	< 111 U	17.8
SB45	SB45-9.4 (20180220)	2/20/2018	N	2.71	9.4	**2580**	< 106 U	< 106 U	< 106 U	< 106 U	14.8
SB45	SB45-14.2 (20180220)	2/20/2018	N	2.71	14.2	< 105 U	< 105 U	< 105 U	< 105 U	< 105 U	14.6
SB46	SB46-0.5-2.0 (20180220)	2/20/2018	N	2.71	0.5-2	**16700**	< 117 U	< 117 U	< 117 U	< 117 U	18.7
SB46	SB46-5.8 (20180220)	2/20/2018	N	2.71	5.8	**27700**	< 114 U	< 114 U	< 114 U	< 114 U	18.2
SB46	SB46-9.3 (20180220)	2/20/2018	N	2.71	9.3	**13500**	< 118 U	< 118 U	< 118 U	< 118 U	15.2
SB46	SB46-14.8 (20180220)	2/20/2018	N	2.71	14.8	**6780**	< 111 U	< 111 U	< 111 U	< 111 U	12.6
SB46	SB46-17.3 (20180220)	2/20/2018	N	2.71	17.3	**3170**	< 106 U	< 106 U	< 106 U	< 106 U	13.5
SB47	SB47-0.5-2.0 (20180220)	2/20/2018	N	2.71	0.5-2	**5060**	< 110 U	< 110 U	< 110 U	< 110 U	15.1
SB47	SB47-9.7 (20180220)	2/20/2018	N	2.71	9.7	**3730**	< 111 U	< 111 U	< 111 U	< 111 U	13.9
SB47	SB47-14.7 (20180220)	2/20/2018	N	2.71	14.7	**2340**	< 103 U	< 103 U	< 103 U	< 103 U	13.3
SB47	SB47-5.6 (20180220)	2/20/2018	N	2.71	5.6	**14700**	< 116 U	< 116 U	< 116 U	< 116 U	18.7
SB48	SB48-0.5-2.0 -20180221	2/21/2018	N	10.04	0.5-2	**241 J**	< 156 U	< 156 UJ	< 156 UJ	< 156 U	20.8
SB48	SB48-6.0 -20180221	2/21/2018	N	10.04	6	< 149 U	< 149 U	< 149 UJ	< 149 UJ	< 149 U	24.6
SB48	SB48-11.0 -20180221	2/21/2018	N	10.04	11	< 128 U	< 128 U	**212 J**	< 128 UJ	< 128 U	22.7
SB48	SB48-17.3 -20180221	2/21/2018	N	10.04	17.3	**20900**	< 102 U	**1750 J**	< 102 UJ	< 102 U	12.7
SB48	SB48-21.7 -20180221	2/21/2018	N	10.04	21.7	**21300**	< 106 U	**1250 J**	< 106 UJ	< 106 U	12.4
SB48	SB48-27.8 -20180221	2/21/2018	N	10.04	27.8	**20700**	< 98.7 U	**784 J**	< 98.7 UJ	< 98.7 U	14.1
SB48	SB48-31.3 -20180221	2/21/2018	N	10.04	31.3	**36600**	< 112 U	< 112 UJ	< 112 UJ	< 112 U	14.2
SB48	SB48-36.8 -20180221	2/21/2018	N	10.04	36.8	**20000**	< 104 U	< 104 UJ	< 104 UJ	< 104 U	14.3
SB48	SB48-42.8 -20180221	2/21/2018	N	10.04	42.8	**90900**	< 2240 U	< 2240 U	< 2240 U	< 2240 U	14.7
SB48	SB48-46.3 -20180221	2/21/2018	N	10.04	46.3	**36200**	< 1030 U	< 1030 U	< 1030 U	< 1030 U	15.0
SB48	SB48-52.8 -20180222	2/22/2018	N	10.04	52.8	**223**	< 110 U	< 110 U	< 110 U	< 110 U	15.2
SB49	SBDUP01 -20180222	2/22/2018	FD	3.88	13	**12500**	< 107 U	< 107 U	< 107 U	< 107 U	13.6
SB49	SB49-0.5-2.0 -20180222	2/22/2018	N	3.88	0.5-2	**132 J**	< 116 U	**1060**	< 116 U	< 116 U	14.6
SB49	SB49-7.0 -20180222	2/22/2018	N	3.88	7	< 120 U	< 120 U	< 120 U	< 120 U	< 120 U	18.4
SB49	SB49-13.0 -20180222	2/22/2018	N	3.88	13	**11800**	< 108 U	< 108 U	< 108 U	< 108 U	15.5
SB49	SB49-15.2 -20180222	2/22/2018	N	3.88	15.2	**12000**	< 220 U	< 220 U	< 220 U	< 220 U	12.6
SB49	SB49-21.8 -20180222	2/22/2018	N	3.88	21.8	**7960**	< 108 U	< 108 U	< 108 U	< 108 U	15.1
SB49	SB49-27.7 -20180222	2/22/2018	N	3.88	27.7	**2450**	< 121 U	< 121 U	< 121 U	< 121 U	16.0
SB49	SB49-32.4 -20180222	2/22/2018	N	3.88	32.4	**764**	< 109 U	< 109 U	< 109 U	< 109 U	15.6
SB49	SB49-37.4 -20180222	2/22/2018	N	3.88	37.4	< 115 U	< 115 U	< 115 U	< 115 U	< 115 U	16.3
SB49	SB49-43.0 -20180222	2/22/2018	N	3.88	43	< 115 U	< 115 U	< 115 U	< 115 U	< 115 U	16.6
SB49	SB49-49.5 -20180222	2/22/2018	N	3.88	49.5	< 117 U	< 117 U	< 117 U	< 117 U	< 117 U	16.8
SB50	SBDUP02 -20180222	2/22/2018	FD	10.04	48.5	< 107 U	< 107 U	< 107 U	< 107 U	< 107 U	14.3
SB50	SB50-0.5-2.0 -20180222	2/22/2018	N	10.04	0.5-2	< 128 U	< 128 U	< 128 U	< 128 U	< 128 U	18.7
SB50	SB50-7.0 -20180222	2/22/2018	N	10.04	7	< 123 U	< 123 U	< 123 U	< 123 U	< 123 U	19.1
SB50	SB50-12.0 -20180222	2/22/2018	N	10.04	12	< 109 U	< 109 U	< 109 U	< 109 U	< 109 U	14.8
SB50	SB50-17.0 -20180222	2/22/2018	N	10.04	17	< 110 U	< 110 U	< 110 U	< 110 U	< 110 U	14.9
SB50	SB50-22.0 -20180222	2/22/2018	N	10.04	22	< 112 U	< 112 U	< 112 U	< 112 U	< 112 U	14.0
SB50	SB50-27.0 -20180222	2/22/2018	N	10.04	27	< 109 U	< 109 U	< 109 U	< 109 U	< 109 U	13.9
SB50	SB50-32.0 -20180222	2/22/2018	N	10.04	32	< 106 U	< 106 U	< 106 U	< 106 U	< 106 U	15.4
SB50	SB50-37.0 -20180222	2/22/2018	N	10.04	37	< 105 U	< 105 U	< 105 U	< 105 U	< 105 U	14.7
SB50	SB50-42.0 20180222	2/22/2018	N	10.04	42	< 108 U	< 108 U	< 108 U	< 108 U	< 108 U	14.8
SB50	SB50-47.0 -20180222	2/22/2018	N	10.04	47	< 111 U	< 111 U	< 111 U	< 111 U	< 111 UJ	15.1
SB50	SB50-48.5 -20180222	2/22/2018	N	10.04	48.5	< 114 U	< 114 U	< 114 U	< 114 U	< 114 U	15.2
MW-35	MW35-0.0-2.0(20190708)	7/8/2019	N	4.64	0-2	< 0.76 U	< 0.67 U	< 0.45 U	< 0.71 U	< 0.70 U	19.7
MW-35	MW35-2.0-3.0(20190708)	7/8/2019	N	4.64	2-3	< 0.63 U	< 0.55 U	< 0.37 U	< 0.59 U	< 0.57 U	15.2
MW-36	MW36-0.0-2.0(20190708)	7/8/2019	N	20.11	0-2	< 0.73 U	< 0.64 U	< 0.43 U	< 0.68 U	< 0.67 U	20.4
MW-36	DUP01-(20190708)	7/8/2019	FD	20.11	0-2	< 0.75 U	< 0.66 U	< 0.45 U	< 0.71 U	< 0.69 U	20.9
MW-36	MW36-2.0-3.0(20190708)	7/8/2019	N	20.11	2-3	< 0.79 U	< 0.70 U	< 0.47 U	< 0.74 U	< 0.73 U	21.1
MW-37	MW37-0.0-2.0(20190708)	7/8/2019	N	5.18	0-2	< 0.79 U	< 0.70 U	< 0.47 U	< 0.74 U	< 0.73 U	15.7
MW-37	MW37-2.0-3.0(20190708)	7/8/2019	N	5.18	2-3	< 0.66 U	< 0.58 U	< 0.39 U	< 0.62 U	< 0.61 U	17.4

Notes: Soil samples were analyzed by Pace Lab, Lenexa, KS for Method 8260 Volatile Organics by GC/MS.
Detections are boldfaced
Letter suffix in sample name indicates a sample collected from a stepped-over adjacent soil boring (e.g. samples collected from SB03A are adjacent to the SB03 borehole)
CASRN - Chemical Abstracts Service Registry Number
FD - Field Duplicate
ft - feet
J - Result is considered to be estimated at the value reported.
N - Normal Sample
< 120 U - Constituent was not detected at or above the indicated method detection limit.
ug/kg - micrograms per kilogram
UJ - Result is considered not detected but estimated due to QC deficiencies.

Table 7. Analytical Results for CVOCs in Groundwater from Monitoring Wells 2018-2019 (Fixed Lab)
Toastmaster Macon Site, Macon, Missouri

				VOCs	VOCs	VOCs	VOCs	VOCs
				Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
				N	N	N	N	N
				ug/l	ug/l	ug/l	ug/l	ug/l
Location	Sample ID	Sample Date	Sample Type					
MW-01	MW-01 (20180220)	2/20/2018	N	**336**	**2.0**	**1970**	**4.7**	**156**
MW-02	MW-02 (20180222)	2/22/2018	N	**94900**	**9.3 J**	**111**	**6.1 J**	**4.9 J**
MW-03	MW-03 (20180222)	2/22/2018	N	**106000**	**36.8**	**382 J**	**113**	**22.3**
MW-04	MW-04 (20180222)	2/22/2018	N	**150**	< 0.20 U	**11.6**	< 0.20 U	**0.26 J**
MW-05	MW-05 (20180222)	2/22/2018	N	**23400**	**5.6 J**	**1700**	**10.4**	**3.3 J**
MW-06	MW-06 (20180220)	2/20/2018	N	**386**	**0.85 J**	**113**	**1.6**	**1.7**
MW-07	MW-07 (20180220)	2/20/2018	N	**0.95 J**	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-08	MW-08 (20180222)	2/22/2018	N	< 0.17 UB	< 0.20 U	**0.26 J**	< 0.20 U	< 0.13 U
MW-09	MW-09 (20180222)	2/22/2018	N	< 0.17 UB	< 0.20 U	**0.54 J**	< 0.20 U	< 0.13 U
MW-09	DUP-02 (20180222)	2/22/2018	FD	< 0.17 UB	< 0.20 U	**0.96 J**	< 0.20 U	< 0.13 U
MW-10	MW-10 (20180221)	2/21/2018	N	**56.6**	< 2.0 U	**16.2**	< 2.0 U	< 1.3 U
MW-11	MW-11 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 UB	< 0.20 U	< 0.13 U
MW-12	MW-12 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 UB	< 0.20 U	< 0.13 U
MW-13	MW-13 (20180221)	2/21/2018	N	< 0.17 UB	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-14	MW-14 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-15	MW-15 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-16	MW-16 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-17	MW-17 (20180221)	2/21/2018	N	**932**	**0.85 J**	**28.7**	< 0.20 U	< 0.13 U
MW-18	MW-18 (20180220)	2/20/2018	N	**13.0**	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-19	MW-19 (20180220)	2/20/2018	N	**73.7**	< 0.20 U	**3.7**	< 0.20 U	< 0.13 U
MW-20	MW-20 (20180220)	2/20/2018	N	**1.8**	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-21	MW-21 (20180220)	2/20/2018	N	**6.6**	**1.0**	**1.1**	< 0.20 U	**0.25 J**
MW-21	DUP-01 (20180220)	2/20/2018	FD	**7.1**	**1.2**	**0.87 J**	< 0.20 U	< 0.13 U
MW-22	MW-22 (20180222)	2/22/2018	N	< 0.17 UB	< 0.20 U	**2.6**	< 0.20 U	< 0.13 U
MW-23	MW-23 (20180222)	2/22/2018	N	**4220**	**8.0**	**2620**	**4.9**	**21.2**
MW-25	MW-25 (20180222)	2/22/2018	N	< 0.17 UB	< 0.20 U	**1.3**	< 0.20 U	< 0.13 U
MW-26	MW-26 (20180220)	2/20/2018	N	< 0.17 U	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-27	MW-27 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-28	MW-28 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 UB	< 0.20 U	< 0.13 U
MW-29	MW-29 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 U	< 0.20 U	< 0.13 U
MW-30	MW-30 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 UB	< 0.20 U	< 0.13 U
MW-31	MW-31 (20180221)	2/21/2018	N	< 0.17 U	< 0.20 U	< 0.080 UB	< 0.20 U	< 0.13 U
MW-32	MW-32 (20190710)	7/10/2019	N	**90100**	< 110 U	**1540**	< 85 U	<55 U
MW-32	MW-32 (20180223)	2/23/2018	N	**74000**	**71.8**	**1580**	**23.7 J**	**175**
MW-33	MW-33 (20190710)	7/10/2019	N	**702 J**	**0.25J**	**5.3**	<0.17 U	**0.19 J**
MW-33	MW-33 (20180223)	2/23/2018	N	**64.8**	< 0.20 U	**0.30 J**	< 0.20 U	< 0.13 U
MW-34	MW-34 (20190710)	7/10/2019	N	**217 J**	<0.22 U	**6.9**	<0.17 U	<0.11 U
MW-34	DUP-01 (20190710)	7/10/2019	FD	**210 J**	<0.22 U	**6.5**	<0.17 U	<0.11 U
MW-34	MW-34 (20180223)	2/23/2018	N	**401**	**0.28 J**	**3.8**	< 0.20 U	**0.20 J**
MW-35	MW-35 (20190822)	8/22/2019	N(G)	< 0.17 U	< 0.22 U	< 0.17 U	< 0.17 UJ	< 0.11 U
MW-35	DUP-01 (20190822)	8/22/2019	FD	< 0.17 U	< 0.22 U	< 0.17 U	< 0.17 U	< 0.11 U
MW-36	MW-36 (20190822)	8/22/2019	N(G)	**1.1**	< 0.22 U	< 0.17 U	< 0.17 U	< 0.11 U
MW-37	MW-37 (20190724)	7/24/2019	N	**1.6**	< 0.22 U	< 0.17 U	< 0.17 U	< 0.11 U
MW-37	DUP-02 (20190724)	7/24/2019	FD	**1.7**	< 0.22 U	< 0.17 U	< 0.17 U	< 0.11 U

Notes: Groundwater samples were analyzed by Pace Lab, Lenexa, KS for Method 8260 Volatile Organics by GC/MS.
Detections are boldfaced ug/L - micrograms per liter < Not detected at or above the method detection limit, as shown.
N - Normal Sample N(G) - Normal Sample (Grab) FD - Field Duplicate
J – Result is considered to be estimated at the value reported
UJ – Result is considered not detected but estimated due to QC deficiencies
UB – Non-detect at the sample concentration due to associated blank contamination
R – Result is qualified as unusable, data point is rejected

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Table 8. Summary of Field Parameters for Groundwater from Monitoring Wells - 2018 - 2019
Toastmaster Macon Site, Macon, Missouri

		Static Depth to Groundwater	pH	Conductivity	Dissolved Oxygen	Oxidation Reduction Potential	Temperature
	Unit	(btoc)	pH units	mS/cm	mg/L	mV	C
Well Name	**Sample Date**	Measured on 2/20/18					
Shallow							
MW-01	2/20/2018	5.22	6.88	1.660	0.34	211.1	10.30
MW-02	2/22/2018	3.49	7.52	0.890	6.93	70.4	13.60
MW-05	2/22/2018	2.00	7.23	1.260	4.23	93.2	12.10
MW-07	2/20/2018	0.50	7.32	0.682	1.99	263.5	11.20
MW-09	2/22/2018	9.76	6.95	1.550	0.10	129.7	13.80
MW-11	2/21/2018	7.10	7.15	1.730	4.16	329.7	7.90
MW-13	2/21/2018	5.45	6.60	1.030	0.32	300.8	7.40
MW-17	2/21/2018	6.25	7.11	0.890	2.59	218.1	11.10
MW-19	2/20/2018	7.15	7.14	2.210	5.20	351.0	10.40
MW-21	2/20/2018	5.91	7.21	1.760	4.46	293.3	13.70
MW-23	2/22/2018	14.14	7.02	1.570	0.27	314.2	11.50
MW-31	2/21/2018	3.90	6.81	2.210	0.55	156.3	11.30
MW-32	2/23/2018	*2.38*	7.27	1.790	10.77	248.5	10.70
MW-32	7/10/2020	*0.5**	6.98	1.970	0.38	57.3	23.90
MW-34	2/23/2018	9.98	7.48	0.760	5.14	171.1	13.20
MW-34	7/10/2019	6.96*	7.27	0.850	0.13	38.3	19.70
MW-35	8/22/2019	20.9*	7.69	0.89	10.18	75.60	17.99
MW-36	8/22/2019	23.01*	5.90	0.73	9.76	206.10	17.46
MW-37	7/24/2019	5.75	6.99	1.026	2.42	-6.5	20.81
Deep							
MW-03	2/22/2018	10.55	8.06	0.660	0.28	67.5	15.00
MW-04	2/22/2018	0.30	7.14	1.150	0.27	92.4	10.80
MW-06	2/20/2018	6.82	7.05	1.020	3.58	301.0	12.00
MW-08	2/22/2018	0.00	7.36	0.760	6.77	265.3	12.80
MW-10	2/21/2018	0.00	6.79	1.710	0.12	106.8	10.70
MW-12	2/21/2018	8.11	7.11	3.210	2.80	320.3	11.80
MW-14	2/21/2018	1.04	6.84	3.310	0.26	312.9	10.70
MW-15	2/21/2018	3.48	7.02	1.950	0.29	296.8	9.40
MW-16	2/21/2018	2.15	6.93	3.390	1.96	309.8	8.30
MW-18	2/20/2018	6.30	7.08	3.060	2.71	321.8	11.40
MW-20	2/20/2018	9.40	6.85	3.300	0.76	250.1	10.90
MW-22	2/22/2018	14.13	7.36	0.930	2.64	308.0	11.90
MW-25	2/22/2018	10.89	6.84	3.390	0.21	306.6	12.90
MW-26	2/20/2018	8.76	7.10	1.450	1.01	216.8	11.90
MW-27	2/21/2018	3.75	6.83	3.230	0.44	303.5	11.00
MW-28	2/21/2018	3.75	7.47	1.390	8.13	316.4	8.20
MW-29	2/21/2018	1.85	7.01	3.260	1.52	292.4	9.80
MW-30	2/21/2018	3.66	6.76	3.270	0.24	195.9	11.20
MW-33	2/23/2018	*32.11*	7.00	3.120	3.40	42.20	11.40
MW-33	7/10/2019	*10.20*	6.96	3.040	2.58	55.00	23.50

Notes:
Field Parameters for groundwater in monitoring wells were obtained during low-flow sampling.
2.38 - Depth to water value in italics was measured on 2/27/18
32.11 - Underlined depth to water value indicates the purged well has not fully recovered.
btoc - below top of casing
* - Well gauged the same day it was sampled
G - Grab sample due to insufficient well volume
NA - Not Analyzed
NM - Not Measured

Table 9. Geochemical Analyses of Groundwater from Selected Monitoring Wells - 2018 (Fixed Lab)
Toastmaster Macon Site, Macon, Missouri

				Anions	Anions	Anions	Anions	Anions	Gases	GenChem	GenChem	GenChem	GenChem	Metals
				Chloride	Nitrate	Nitrate/ Nitrite	Nitrite	Sulfate	Methane	Alkalinity	Hardness (as CaCO3)	Total Dissolved Solids	Total Suspended Solids	Calcium
				N	N	N	N	N	N	N	T	D	N	T
				mg/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	ug/l	mg/l	mg/l	ug/l
Location	Sample ID	Sample Date	Sample Type											
MW-01	MW-01 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-02	MW-02 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-03	MW-03 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-04	MW-04 (20180222)	2/22/2018	N	**12.1**	**0.91**	**1.1**	**0.20**	**472**	< 1.1 UB	**173**	**593000**	**704**	< 5.0 U	**187000**
MW-05	MW-05 (20180222)	2/22/2018	N	**35.6**	**1.1**	**1.1**	< 0.030 U	**464**	< 1.1 UBJ	**203**	**571000**	**752**	< 5.0 U	**165000**
MW-06	MW-06 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-07	MW-07 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-08	MW-08 (20180222)	2/22/2018	N	**14.7**	**0.58**	**0.58**	< 0.030 U	**100**	< 1.1 UB	**293**	**315000**	**333**	< 5.0 U	**93300**
MW-09	MW-09 (20180222)	2/22/2018	N	**4.3**	**0.56**	**0.59**	< 0.030 U	**167**	< 1.1 UBJ	**275 J**	**211000**	**448**	< 5.0 U	**56300**
MW-09	DUP-02 (20180222)	2/22/2018	FD	**5.5**	**0.37**	**0.39**	< 0.030 U	**143**	< 1.1 UB	**165 J**	**247000**	**347**	< 5.0 U	**64600**
MW-10	MW-10 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-11	MW-11 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-12	MW-12 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-13	MW-13 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-14	MW-14 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-15	MW-15 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	MW-16 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	MW-17 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	MW-18 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-19	MW-19 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20	MW-20 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21	MW-21 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21	DUP-01 (20180220)	2/20/2018	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-22	MW-22 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-23	MW-23 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-25	MW-25 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-26	MW-26 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-27	MW-27 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-28	MW-28 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-29	MW-29 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-30	MW-30 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-31	MW-31 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-32	MW-32 (20180223)	2/23/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-33	MW-33 (20180223)	2/23/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-34	MW-34 (20180223)	2/23/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: Various laboratory methods for geochemical parameters were analyzed by Pace Lab, Lenexa, KS

Detections are boldfaced
ug/L - micrograms per liter
mg/l - milligrams per liter
< 0.030 U - Constituent was not detected at or above the indicated method detection limit.

N - Normal Sample
FD - Field Duplicate
J - Result is considered to be estimated at the value reported.
UB - Consituent is non-detect at the indicated sample concentration due to associated blank contamination.

Table 9. Geochemical Analyses of Groundwater from Selected Monitoring Wells - 2018 (Fixed Lab)
Toastmaster Macon Site, Macon, Missouri

				Metals	Metals	Metals	Metals	Metals	Metals	TOC	TOC	TOC	TOC	TOC	TOC
				Iron	Iron	Magnesium	Manganese	Manganese	Sodium	Total Organic Carbon	Total Organic Carbon 1	Total Organic Carbon 2	Total Organic Carbon 3	Total Organic Carbon 4	Total Organic Carbon Average
				D	T	T	D	T	T	N	N	N	N	N	N
				ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Location	**Sample ID**	**Sample Date**	**Sample Type**												
MW-01	MW-01 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-02	MW-02 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-03	MW-03 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-04	MW-04 (20180222)	2/22/2018	N	< 12.4 U	< 12.4 UB	**30400**	**33.3**	**41.0**	**24600**	**7.2**	**7.2**	**7.2**	**7.2**	**7.2**	**7.2**
MW-05	MW-05 (20180222)	2/22/2018	N	< 12.4 U	< 12.4 UB	**38300**	< 1.8 UB	**19.7**	**65700**	**3.8**	**3.8**	**3.9**	**3.9**	**4.0**	**3.9**
MW-06	MW-06 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-07	MW-07 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-08	MW-08 (20180222)	2/22/2018	N	< 12.4 U	< 12.4 UB	**19800**	< 1.8 UB	**42.8**	**39200**	**4.9**	**4.9**	**4.9**	**5.0**	**5.0**	**4.9**
MW-09	MW-09 (20180222)	2/22/2018	N	**79.0**	< 12.4 UB	**17200**	**176 J**	**126 J**	**37400**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**
MW-09	DUP-02 (20180222)	2/22/2018	FD	**45.2 J**	< 12.4 UB	**20800**	**133**	**159**	**47700**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**	**2.0**
MW-10	MW-10 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-11	MW-11 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-12	MW-12 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-13	MW-13 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-14	MW-14 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-15	MW-15 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-16	MW-16 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-17	MW-17 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-18	MW-18 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-19	MW-19 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-20	MW-20 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21	MW-21 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-21	DUP-01 (20180220)	2/20/2018	FD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-22	MW-22 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-23	MW-23 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-25	MW-25 (20180222)	2/22/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-26	MW-26 (20180220)	2/20/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-27	MW-27 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-28	MW-28 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-29	MW-29 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-30	MW-30 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-31	MW-31 (20180221)	2/21/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-32	MW-32 (20180223)	2/23/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-33	MW-33 (20180223)	2/23/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-34	MW-34 (20180223)	2/23/2018	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: Various laboratory methods for geochemical parameters were analyzed by Pace Lab, Lenexa, KS

Detections are boldfaced
ug/L - micrograms per liter
mg/l - milligrams per liter
< 0.030 U - Constituent was not detected at or above the indicated method detection limit.

N - Normal Sample
FD - Field Duplicate
J - Result is considered to be estimated at the value reported.
UB - Consituent is non-detect at the indicated sample concentration due to associated blank contamination.

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Table 10. Estimated Hydraulic Conductivity Results to Hydrofacies Determination
Toastmaster Macon Site - Macon, Missouri

Hydrofacies	Dominant Grain Size Class	Sample	Soil Texture Code Based Off Field Logging	Visual/Manual Soil Texture From Geotechnical Lab	Sieve Analysis Grain Size Distribution Results								
							Sand						
					% Pebbles	% Granules	% Very Coarse Sand	% Coarse Sand	% Medium Sand	% Fine Sand	% Very Fine Sand	% Silt	% Clay
Storage	Clay	SB03_49-50	CH	Fat clay with sand	1	1	2	3	7	7	7	32	40
		SB04B_20-21	CH	Sandy lean/fat clay	3	3	4	4	11	21	5	21	28
		SB06A_45.5-46.5	CH	Fat clay with sand	1	1	2	2	7	9	8	33	37
		SB07_47-48	CH	Fat clay with sand		1	2	2	7	8	7	39	34
		SB07_59-60	CH	Sandy fat clay	7	1	2	4	6	8	6	32	34
		SB23_17-18	CH	Sandy fat clay		1	2	4	11	13	9	27	33
		SB23_22.5-23.5	CH	Sandy fat clay	1	1	3	4	11	11	8	32	29
		SB23_31.5-32.5	CH	Sandy fat clay		1	2	3	9	10	8	32	35
		SB41_18-19	CH	Sandy fat clay	2	1	3	4	9	11	8	30	32
		SB41_23-24	CH	Sandy fat clay		1	3	3	8	10	8	32	35
		SB38_10-11	CHML	Sandy lean/fat clay		1	2	4	10	11	8	26	38
		SB29_11.5-12.5	CHSW	Sandy lean/fat clay	1		2	2	10	12	8	29	36
		SB23_7-8	CL	Lean/fat clay with sand			1	1	5	7	4	40	42
		SB39_20.5-21.5	CL	Sandy fat clay	5	1	2	4	10	11	8	30	29
		SB25_30.5-31.5	CLSW	Sandy fat clay	2	1	2	5	8	11	7	31	33
Slow Advection	Silt	SB06A_49.5-50.5	ML	Silt with sand						2	27	59	12
		SB25_7.5-8.5	MLCH	Fat clay				1	5	6	3	55	30
		SB39_10-11	MLCH	Fat clay with sand		1		4	8	10	7	32	38
		SB17_14.5-16.0	MLSW	Sandy lean/fat clay	1	1	2	2	12	13	9	29	31
Transport	Sand	SB06A_26-28	SP	Poorly graded sand with silt				2	38	41	19		
		SB06A_28-29.5	SP	Poorly graded sand with silt	5	9	5	8	50	15	8		
		SB24_26-27	SP	Clayey sand		1	1	13	37	17	6	13	12
		SB38_21-22	SP	Silty sand			2	10	34	27	9	10	8
		SB03_63-64	SW	Poorly graded sand				3	53	36		8	
		SB04A_21.5-22.5	SW	Poorly graded sand with silt	9	10	15	27	28	4		7	
		SB04C_22.0-24.3	SW	Poorly graded sand with clay	1	3	11	20	40	11	3	5	6
		SB15A_46.5-48.0	SW	Poorly graded sand with silt and gravel	21	13	18	23	11	2	2	6	4
		SB15A_49.5-50.5	SW	Silty sand with gravel	18	16	22	14	10	4		16	
		SB42_40.0-40.5	SW	Poorly graded sand			1	11	60	24		4	
		SB12A_46.5-47.0	SWML	Silty sand	1	1	4	13	49	15		17	
		SB15A_48-49	SWML	Clayey sand with gravel	21	8	11	12	26	5	2	9	6

Notes:

K - Hydraulic Conductivity measured in centimeters per second (cm/s)

Grain size distribution results are color-scaled to indicate the dominant grain size percentage in each sample, with darker shades indicating increased percentages of the highlighted grain size.

All sample depths are indicated within the sample nomenclature

Example: SB03_49-50
Collected from 49 to 50 feet below grade

Soil texture codes are detailed below; combinations of codes represent a primary observed grain size with a secondary observed grain size (e.g. SWML - well graded sand with silt).

CH - high plasticity clay
CL - low plasticity clay
ML - low dilatancy silt
SP - poorly graded sand
SW - well graded sand

Hydrofacies code designations for each sample are based on field logging interpretations and the geometric average of observed maximum hydraulic conductivity results as follows:

Hydrofacies	Estimated Hydraulic Conductivity Order of Magnitude
STORAGE	10^{-6} to 10^{-8}
SLOW ADVECTION	10^{-5} to 10^{-8}
TRANSPORT	10^{-1} to 10^{-7}

Equation References:

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Table 11. Analytical Results for CVOCs in Vadose Soils from 2017-2019 Borings
Toastmaster Macon Site - Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1- Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB01	SB01-0.0-2.0-20171101	11/1/2017	N	0.75	0-2	< 23.7 U	< 8.20 U	NS	< 43.7 U	< 13.2 U	< 34.6 U
SB02	SB02-0.0-2.0-20171101	11/1/2017	N	5.46	0-2	< 24.5 U	< 8.47 U	NS	< 45.2 U	< 13.6 U	< 35.8 U
SB02A	SB02A-4.5-20171117	11/17/2017	N	5.46	4.5	< 21.5 U	< 7.45 U	NS	< 39.7 U	< 12.0 U	< 31.5 U
SB03	SB03-1.5-20171101	11/1/2017	N	3.68	1.5	< 22.8 U	< 7.88 U	NS	< 42.0 U	< 12.7 U	< 33.3 U
SB03A	SB03A-0.5-2-20171105	11/5/2017	N	3.68	0.5-2	< 20.4 U	< 7.06 U	NS	< 37.6 U	< 11.4 U	< 29.8 U
SB04	SB04-0.0-2.0-20171102	11/2/2017	N	5.46	0-2	< 21.7 U	< 7.50 U	NS	< 40.0 U	< 12.1 U	< 31.6 U
SB05	SB05-0.0-2.0-20171102	11/2/2017	N	5.46	0-2	< 25.8 U	< 8.93 U	NS	< 47.6 U	< 14.4 U	< 37.7 U
SB05A	SB05A-5.0-20171117	11/17/2017	N	5.46	5	< 22.7 U	< 7.86 U	NS	< 41.9 U	< 12.7 U	< 33.2 U
SB06	SB06-0.5-2.0-20171102	11/2/2017	N	5.46	0.5-2	< 20.7 U	< 7.16 U	NS	< 38.2 U	< 11.5 U	< 30.2 U
SB07	SB07-1.5-2-20171103	11/3/2017	N	3.68	1.5-2	< 26.1 U	< 9.04 U	NS	< 48.2 U	< 14.6 U	< 38.2 U
SB08	SB08-0.5-2.0-20171103	11/3/2017	N	5.46	0.5-2	< 22.8 U	< 7.88 U	NS	< 42.0 U	< 12.7 U	< 33.3 U
SB09	SB09-0.5-2.0-20171103	11/3/2017	N	5.46	0.5-2	< 23.2 U	< 8.03 U	NS	< 42.8 U	< 12.9 U	< 33.9 U
SB10	SB10-0.5-2.0-20171103	11/3/2017	N	4.05	0.5-2	< 19.0 U	< 6.57 U	NS	< 35.1 U	< 10.6 U	< 27.8 U
SB11	SB11-0.5-2-20171104	11/4/2017	N	3.68	0.5-2	**57.1**	**42.9 J**	NS	< 45.7 U	< 13.8 U	< 36.2 U
SB12	SB12-0.5-2-20171104	11/4/2017	N	4.84	0.5-2	< 20.5 U	< 7.11 U	NS	< 37.9 U	< 11.5 U	< 30.0 U
SB12	SB12-3.5-20171104	11/4/2017	N	4.84	3.5	< 21.2 U	< 7.35 U	NS	**48.2**	< 11.8 U	< 31.0 U
SB12	SBDUP-01-20171104	11/4/2017	FD	4.84	3.5	< 23.2 U	**26.3 J**	NS	< 42.8 U	< 12.9 U	< 33.9 U
SB13	SB13-0.5-2-20171104	11/4/2017	N	5.39	0.5-2	< 19.4 U	< 6.70 U	NS	< 35.8 U	< 10.8 U	< 28.3 U
SB14	SB14-0.5-2-20171104	11/4/2017	N	2.71	0.5-2	< 22.6 U	< 7.81 U	NS	< 41.7 U	< 12.6 U	< 33.0 U
SB15	SB15-0.5-1.5-20171105	11/5/2017	N	2.22	0.5-1.5	< 19.9 U	< 6.88 U	NS	< 36.7 U	< 11.1 U	< 29.0 U
SB16	SB16-0.5-20171105	11/5/2017	N	4.31	0.5	< 29.4 U	**46.3 J**	NS	< 54.2 U	< 16.4 U	< 42.9 U
SB17	SB17-0.5-2-20171105	11/5/2017	N	3.68	0.5-2	< 19.2 U	< 6.65 U	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB18	SB18-0.5-2.0-20171106	11/6/2017	N	3.68	0.5-2	< 22.7 U	**76.8**	NS	< 41.9 U	< 12.7 U	< 33.2 U
SB19	SB19-1-2-20171106	11/6/2017	N	3.68	1-2	< 23.5 U	< 8.15 U	NS	< 43.5 U	< 13.1 U	< 34.4 U
SB20	SB20-0.5-2.0-20171107	11/7/2017	N	3.68	0.5-2	< 20.4 U	**41.9**	NS	< 37.6 U	< 11.4 U	< 29.8 U
SB21	SB21-0.5-2.0-20171107	11/7/2017	N	3.68	0.5-2	< 22.3 U	**30.9 J**	NS	< 41.2 U	< 12.5 U	< 32.6 U
SB22	SB22-1.0-2.2-20171108	11/8/2017	N	4.31	1-2.2	< 23.9 U	< 8.29 U	NS	< 44.2 U	< 13.3 U	< 35.0 U
SB23	SB23-0.5-2.0-20171108	11/8/2017	N	3.68	0.5-2	< 21.1 U	**7.72 J**	NS	< 39.0 U	< 11.8 U	< 30.9 U
SB24	SB24-0.7-2.0-20171113	11/13/2017	N	2.71	0.7-2	< 21.1 U	**7990**	NS	< 38.9 U	< 11.8 U	< 30.8 U
SB25	SB25-0.5-2.0-20171114	11/14/2017	N	5.46	0.5-2	< 22.9 U	< 7.93 U	NS	< 42.3 U	< 12.8 U	< 33.5 U
SB26	SB26-0.0-2.0-20171113	11/13/2017	N	5.39	0-2	< 24.4 U	**11.8 J**	NS	< 45.1 U	< 13.6 U	< 35.7 U
SB26	SB26-5.0-20171113	11/13/2017	N	5.39	5	< 18.3 U	**96.2**	NS	< 33.7 U	< 10.2 U	< 26.7 U
SB27	SB27-1.0-2.0-20171113	11/13/2017	N	4.31	1-2	< 20.7 U	< 7.18 U	NS	< 38.3 U	< 11.6 U	< 30.3 U
SB28	SB28-1.0-2.0-20171113	11/13/2017	N	2.71	1-2	< 22.4 U	**151**	NS	< 41.3 U	< 12.5 U	< 32.7 U
SB29	SB29-0.5-2.0-20171113	11/13/2017	N	5.39	0.5-2	< 22.1 U	< 7.64 U	NS	< 40.7 U	< 12.3 U	< 32.2 U
SB29	SB29-2.0-20171113	11/13/2017	N	5.39	2	< 22.2 UJ	< 7.69 UJ	NS	< 41.0 UJ	< 12.4 UJ	< 32.5 UJ
SB29	SB29-4.5-20171113	11/13/2017	N	5.39	4.5	< 20.2 U	< 6.98 U	NS	< 37.2 U	< 11.2 U	< 29.5 U
SB30	SB30-0.7-2-20171115	11/15/2017	N	3.68	0.7-2	< 26.5 U	**164**	NS	< 48.9 U	< 14.8 U	< 38.7 U
SB31	SB31-0.5-2.0-20171115	11/15/2017	N	3.68	0.5-2	< 22.8 U	< 7.90 U	NS	< 42.1 U	< 12.7 U	< 33.4 U
SB32	SB32-1.5-20171119	11/19/2017	N	5.46	1.5	< 20.7 U	< 7.15 U	NS	< 38.2 U	< 11.5 U	< 30.2 U
SB32	SB32-5.0-20171119	11/19/2017	N	5.46	5	< 21.3 U	< 7.38 U	NS	< 39.4 U	< 11.9 U	< 31.2 U
SB34	SB34-0.5-2.0-20171119	11/19/2017	N	3.68	0.5-2	< 22.4 U	< 7.75 U	NS	< 41.3 U	< 12.5 U	< 32.7 U
SB35	SB35-1.0-2.0-20171120	11/20/2017	N	3.68	1-2	< 21.9 U	< 7.60 U	NS	< 40.5 U	< 12.2 U	< 32.1 UJ
SB36	SB36-1.0-2.0-20171128	11/28/2017	N	2.22	1-2	< 240 U	**175 J**	NS	< 443 U	< 134 U	< 350 U
SB37	SB37-0.0-2.0-20171129	11/29/2017	N	4.84	0-2	< 25.4 U	< 8.80 U	NS	< 46.9 U	< 14.2 U	< 37.2 U
SB38	SB38-0.8-2.0-20171129	11/29/2017	N	10.04	0.8-2	< 24.9 U	< 8.63 U	NS	< 46.0 U	< 13.9 U	< 36.4 U
SB38	SB38-5.3-20171129	11/29/2017	N	10.04	5.3	< 23.6 U	< 8.17 U	NS	< 43.6 U	< 13.2 U	< 34.5 U
SB38	SB38-5.7-20171129	11/29/2017	N	10.04	5.7	< 23.8 U	< 8.25 U	NS	< 44.0 U	< 13.3 U	< 34.8 U
SB38	SB38-6.7-20171129	11/29/2017	N	10.04	6.7	< 22.5 U	< 7.78 U	NS	< 41.5 U	< 12.5 U	< 32.9 U
SB38	SB38-7.2-20171129	11/29/2017	N	10.04	7.2	< 25.4 U	< 8.80 U	NS	< 46.9 U	< 14.2 U	< 37.2 U
SB38	SB38-8.7-20171129	11/29/2017	N	10.04	8.7	< 21.9 U	< 7.57 U	NS	< 40.4 U	< 12.2 U	< 32.0 U
SB39	SB39-0.8-2.0-20171129	11/29/2017	N	3.68	0.8-2	< 21.4 U	< 7.41 U	NS	< 39.5 U	< 11.9 U	< 31.3 U
SB40	SB40-1.0-2.0-20171130	11/30/2017	N	2.22	1-2	< 22.5 U	< 7.78 U	NS	< 41.5 U	< 12.5 U	< 32.9 U
SB41	SB41-0.1-2.0-20171130	11/30/2017	N	0.75	0.1-2	< 25.1 U	< 8.69 U	NS	< 46.3 U	< 14.0 U	< 36.7 U
SB42	SB42-0.1-2.0-20171130	11/30/2017	N	7.16	0.1-2	< 24.5 U	< 8.49 U	NS	< 45.3 U	< 13.7 U	< 35.8 U
SB42	SB42-5.0-20171130	11/30/2017	N	7.16	5	< 17.8 U	< 6.17 U	NS	< 32.9 U	< 9.94 U	< 26.0 U
SB43	SB43-0.1-2.0-20171201	12/1/2017	N	2.22	1-2	< 33.1 U	< 13.7 U	NS	< 10.2 U	< 11.3 U	< 21.1 U
SB44	SB44-0.5-2.0 (20180220	2/20/2018	N	2.71	0.5-2	NS	**4880**	< 121 U	< 121 U	< 121 U	< 121 U
SB45	SB45-0.5-2.0 (20180220	2/20/2018	N	2.71	0.5-2	NS	**15000**	< 105 U	< 105 U	< 105 U	< 105 U
SB46	SB46-0.5-2.0 (20180220	2/20/2018	N	2.71	0.5-2	NS	**16700**	< 117 U	< 117 U	< 117 U	< 117 U
SB47	SB47-0.5-2.0 (20180220	2/20/2018	N	2.71	0.5-2	NS	**5060**	< 110 U	< 110 U	< 110 U	< 110 U
SB48	SB48-0.5-2.0 -20180221	2/21/2018	N	10.04	0.5-2	NS	**241 J**	< 156 U	< 156 UJ	< 156 UJ	< 156 U
SB48	SB48-6.0 -20180221	2/21/2018	N	10.04	6	NS	< 149 U	< 149 U	< 149 UJ	< 149 UJ	< 149 U
SB49	SB49-0.5-2.0 -20180222	2/22/2018	N	3.88	0.5-2	NS	**132 J**	< 116 U	**1060**	< 116 U	< 116 U
SB50	SB50-0.5-2.0 -20180222	2/22/2018	N	10.04	0.5-2	NS	< 128 U	< 128 U	< 128 U	< 128 U	< 128 U
SB50	SB50-7.0 -20180222	2/22/2018	N	10.04	7	NS	< 123 U	< 123 U	< 123 U	< 123 U	< 123 U
MW-35	MW35-0.0-2.0(20190708	7/8/2019	N	4.64	0-2	NS	< 0.76 U	< 0.67 U	< 0.45 U	< 0.71 U	< 0.70 U
MW-35	MW35-2.0-3.0(20190708	7/8/2019	N	4.64	2-3	NS	< 0.63 U	< 0.55 U	< 0.37 U	< 0.59 U	< 0.57 U
MW-36	MW36-0.0-2.0(20190708	7/8/2019	N	20.11	0-2	NS	< 0.73 U	< 0.64 U	< 0.43 U	< 0.68 U	< 0.67 U
MW-36	DUP01-(20190708)	7/8/2019	FD	20.11	0-2	NS	< 0.75 U	< 0.66 U	< 0.45 U	< 0.71 U	< 0.69 U
MW-36	MW36-2.0-3.0(20190708	7/8/2019	N	20.11	2-3	NS	< 0.79 U	< 0.70 U	< 0.47 U	< 0.74 U	< 0.73 U
MW-37	MW37-0.0-2.0(20190708	7/8/2019	N	5.18	0-2	NS	< 0.79 U	< 0.70 U	< 0.47 U	< 0.74 U	< 0.73 U
MW-37	MW37-2.0-3.0(20190708	7/8/2019	N	5.18	2-3	NS	< 0.66 U	< 0.58 U	< 0.39 U	< 0.62 U	< 0.61 U

Notes:
Soil samples were analyzed onsite by Cascade mobile laboratory for Method 8260C Volatile Organics by GC/MS.
Detections are boldfaced
< Not detected at or above the method detection limit, as shown.
Letter suffix in sample name indicates a sample collected from a stepped-over adjacent soil boring (e.g. samples collected from SB03A are adjacent to the SB03 borehole)
CASRN - Chemical Abstracts Service Registry Number
N - Normal Sample
NS - Not Sampled
FD - Field Duplicate
ft - feet
ug/kg - micrograms per kilogram
U - non-detect
J - Result is considered to be estimated at the value reported.
UB – Non-detect at the sample concentration due to associated blank contamination.
UJ - Result is considered not detected but estimated due to QC deficiencies.

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB01A	SB01A-6.0-20171116	11/16/2017	N	0.75	6	< 18.9 U	< 6.53 U	NS	< 34.8 U	< 10.5 U	< 27.6 U
SB01A	SB01A-11.0-20171116	11/16/2017	N	0.75	11	< 20.6 U	< 7.13 U	NS	< 38.0 U	< 11.5 U	< 30.1 U
SB01A	SB01A-16.0-20171116	11/16/2017	N	0.75	16	< 18.8 U	< 6.50 U	NS	< 34.6 U	< 10.5 U	< 27.4 U
SB01A	SB01A-21.5-20171116	11/16/2017	N	0.75	21.5	< 16.6 U	< 5.76 U	NS	< 30.7 U	< 9.29 U	< 24.3 UJ
SB01A	SB01A-22.0-20171116	11/16/2017	N	0.75	22	< 18.2 U	< 6.30 U	NS	< 33.6 U	< 10.2 U	< 26.6 U
SB01A	SB01A-26.0-20171116	11/16/2017	N	0.75	26	< 18.5 U	< 6.40 U	NS	< 34.1 U	< 10.3 U	< 27.0 U
SB01A	SBDUP-01-20171116	11/16/2017	FD	0.75	26	< 19.4 U	< 6.70 U	NS	< 35.7 U	< 10.8 U	< 28.3 U
SB01A	SB01A-28.3-20171116	11/16/2017	N	0.75	28.3	< 18.8 U	< 6.51 U	NS	< 34.7 U	< 10.5 U	< 27.5 U
SB02A	SB02A-9.7-20171117	11/17/2017	N	5.46	9.7	< 19.1 U	< 6.60 U	NS	< 35.2 U	< 10.6 U	< 27.9 U
SB02A	SB02A-14.5-20171117	11/17/2017	N	5.46	14.5	< 19.3 U	< 6.67 U	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB02A	SB02A-19.5-20171117	11/17/2017	N	5.46	19.5	< 18.9 U	< 6.53 U	NS	< 34.8 U	< 10.5 U	< 27.6 UJ
SB02A	SB02A-24.5-20171117	11/17/2017	N	5.46	24.5	< 17.3 U	< 6.00 U	NS	< 32.0 U	< 9.66 U	< 25.3 U
SB02A	SBDUP-01-20171117	11/17/2017	FD	5.46	24.5	< 17.6 U	< 6.08 U	NS	< 32.4 U	< 9.79 U	< 25.7 U
SB02A	SB02A-27.3-20171117	11/17/2017	N	5.46	27.3	< 17.7 U	< 6.14 U	NS	< 32.7 U	< 9.89 U	< 25.9 U
SB02A	SB02A-28.7-20171117	11/17/2017	N	5.46	28.7	< 17.6 U	< 6.10 U	NS	< 32.5 U	< 9.82 U	< 25.7 U
SB03	SB03-7.5-20171102	11/2/2017	N	3.68	7.5	**102**	**9610**	NS	**1380**	< 10.9 U	**125**
SB03	SB03-11-20171102	11/2/2017	N	3.68	11	**156**	**13300**	NS	**2530**	**10.9 J**	**144**
SB03	SB03-17.5-20171102	11/2/2017	N	3.68	17.5	**46.1**	**12500**	NS	**2510**	**11.8 J**	**284**
SB03	SB03-22-20171102	11/2/2017	N	3.68	22	**26.7 J**	**100000**	NS	**202**	< 14.1 U	< 36.9 U
SB03	SB03-25-20171102	11/2/2017	N	3.68	25	**38.0 J**	**148000**	NS	**109**	< 13.8 U	< 36.1 U
SB03	SB03-27.5-20171102	11/2/2017	N	3.68	27.5	**23.6 J**	**116000**	NS	**76.0**	< 10.9 U	< 28.4 U
SB03	SB03-30.5-20171102	11/2/2017	N	3.68	30.5	**23.4 J**	**74100**	NS	**47.2**	< 11.9 U	< 31.2 U
SB03	SB03-32-20171102	11/2/2017	N	3.68	32	< 27.6 U	**44800**	NS	< 50.9 U	< 15.4 U	< 40.3 U
SB03	SB03-36.5-20171102	11/2/2017	N	3.68	36.5	< 20.8 U	**4570**	NS	< 38.3 U	< 11.6 U	< 30.3 U
SB03	SB03-42.5-20171102	11/2/2017	N	3.68	42.5	< 22.5 U	**336**	NS	< 41.5 U	< 12.5 U	< 32.9 U
SB03	SB03-47.5-20171102	11/2/2017	N	3.68	47.5	< 23.0 U	< 7.95 U	NS	< 42.4 U	< 12.8 U	< 33.6 U
SB03	SB03-52.5-20171102	11/2/2017	N	3.68	52.5	< 26.1 U	< 9.03 U	NS	< 48.2 U	< 14.5 U	< 38.1 U
SB03	SBDUP-01-20171102	11/2/2017	FD	3.68	52.5	< 20.3 U	< 7.03 U	NS	< 37.5 U	< 11.3 U	< 29.7 U
SB03	SBDUP-02-20171102	11/2/2017	FD	3.68	52.5	< 21.8 U	< 7.56 U	NS	< 40.3 U	< 12.2 U	< 31.9 U
SB03	SB03-57-20171102	11/2/2017	N	3.68	57	< 20.0 U	< 6.91 U	NS	< 36.9 U	< 11.1 U	< 29.2 U
SB03	SB03-60.5-20171102	11/2/2017	N	3.68	60.5	< 20.9 U	< 7.25 U	NS	< 38.6 U	< 11.7 U	< 30.6 U
SB03	SB03-61.3-20171102	11/2/2017	N	3.68	61.3	< 21.4 U	< 7.39 U	NS	< 39.4 U	< 11.9 U	< 31.2 U
SB03	SB03-62-20171102	11/2/2017	N	3.68	62	< 21.8 U	< 7.56 U	NS	< 40.3 U	< 12.2 U	< 31.9 U
SB03	SB03-62.5-20171102	11/2/2017	N	3.68	62.5	< 26.4 U	**13.2 J**	NS	< 48.8 U	< 14.7 U	< 38.6 U
SB03	SB03-65-20171102	11/2/2017	N	3.68	65	< 24.9 U	< 8.62 U	NS	< 46.0 U	< 13.9 U	< 36.4 U
SB03A	SB03A-5.8-2-20171105	11/5/2017	N	3.68	5.8	< 23.7 U	**2920**	NS	**726**	< 13.2 U	< 34.7 U
SB04A	SB04A-10.0-20171117	11/17/2017	N	5.46	10	< 17.3 U	< 6.01 U	NS	< 32.0 U	< 9.68 U	< 25.4 UJ
SB04A	SB04A-15.0-20171117	11/17/2017	N	5.46	15	< 21.0 U	< 7.27 U	NS	< 38.8 U	< 11.7 U	< 30.7 U
SB04A	SBDUP-02-20171117	11/17/2017	FD	5.46	15	< 20.2 U	< 7.00 U	NS	< 37.3 U	< 11.3 U	< 29.6 U
SB04A	SB04A-20.0-20171117	11/17/2017	N	5.46	20	< 18.2 U	< 6.30 U	NS	< 33.6 U	< 10.1 U	< 26.6 U
SB04A	SB04A-21.4-20171117	11/17/2017	N	5.46	21.4	< 22.8 U	< 7.88 U	NS	< 42.0 U	< 12.7 U	< 33.3 U
SB04A	SB04A-22.0-20171117	11/17/2017	N	5.46	22	< 24.8 U	< 8.58 U	NS	< 45.7 U	< 13.8 U	< 36.2 U
SB04B	SB04B-23.0-20171117	11/17/2017	N	5.46	23	< 20.9 U	< 7.23 U	NS	< 38.5 U	< 11.6 U	< 30.5 U
SB04B	SB04B-23.3-20171117	11/17/2017	N	5.46	23.3	< 19.3 U	< 6.69 U	NS	< 35.7 U	< 10.8 U	< 28.2 U
SB04B	SB04B-24.0-20171117	11/17/2017	N	5.46	24	< 22.3 U	< 7.71 U	NS	< 41.1 U	< 12.4 U	< 32.6 U
SB04B	SB04B-24.5-20171117	11/17/2017	N	5.46	24.5	< 21.3 U	**13.9 J**	NS	< 39.4 U	< 11.9 U	< 31.2 U
SB04B	SB04B-25.0-20171117	11/17/2017	N	5.46	25	< 17.6 U	**13.2 J**	NS	< 32.5 U	< 9.81 U	< 25.7 U
SB04C	SB04C-30.0-20171117	11/17/2017	N	5.46	30	< 17.9 U	< 6.20 U	NS	< 33.0 U	< 9.98 U	< 26.2 U
SB04C	SB04C-35.0-20171117	11/17/2017	N	5.46	35	< 18.1 U	< 6.28 U	NS	< 33.5 U	< 10.1 U	< 26.5 U
SB04C	SB04C-40.0-20171117	11/17/2017	N	5.46	40	< 18.7 U	< 6.49 U	NS	< 34.6 U	< 10.4 U	< 27.4 U
SB05A	SB05A-9.0-20171117	11/17/2017	N	5.46	9	< 22.3 U	< 7.71 U	NS	< 41.1 U	< 12.4 U	< 32.5 U
SB05A	SB05A-14.5-20171117	11/17/2017	N	5.46	14.5	< 19.3 U	< 6.67 U	NS	< 35.6 U	< 10.8 U	< 28.2 U
SB05A	SB05A-19.0-20171117	11/17/2017	N	5.46	19	< 19.1 U	< 6.63 U	NS	< 35.3 U	< 10.7 U	< 28.0 U
SB05A	SB05A-24.5-20171117	11/17/2017	N	5.46	24.5	< 17.9 U	< 6.20 U	NS	< 33.0 U	< 9.98 U	< 26.2 U
SB05A	SB05A-29.5-20171117	11/17/2017	N	5.46	29.5	< 19.2 U	< 6.65 U	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB06A	SB06A-10.0-20171116	11/16/2017	N	5.46	10	< 21.5 U	< 7.45 U	NS	< 39.7 U	< 12.0 U	< 31.5 U
SB06A	SB06A-15.0-20171116	11/16/2017	N	5.46	15	< 18.1 U	< 6.25 U	NS	< 33.3 U	< 10.1 U	< 26.4 U
SB06A	SB06A-20.0-20171116	11/16/2017	N	5.46	20	< 18.7 U	< 6.47 U	NS	< 34.5 U	< 10.4 U	< 27.3 UJ
SB06A	SB06A-25.0-20171116	11/16/2017	N	5.46	25	< 17.5 U	< 6.06 U	NS	< 32.3 U	< 9.77 U	< 25.6 U
SB06A	SBDUP-02-20171116	11/16/2017	FD	5.46	25	< 18.8 U	< 6.50 U	NS	< 34.7 U	< 10.5 U	< 27.4 U
SB06A	SB06A-26.0-20171116	11/16/2017	N	5.46	26	< 25.7 U	< 8.90 U	NS	< 47.5 U	< 14.3 U	< 37.6 U
SB06A	SB06A-30.0-20171116	11/16/2017	N	5.46	30	< 20.2 U	< 6.99 U	NS	< 37.3 U	< 11.3 U	< 29.5 U
SB06A	SB06A-35.0-20171116	11/16/2017	N	5.46	35	< 17.4 U	< 6.02 U	NS	< 32.1 U	< 9.71 U	< 25.4 U
SB06A	SB06A-40.0-20171116	11/16/2017	N	5.46	40	< 18.6 U	< 6.43 U	NS	< 34.3 U	< 10.4 U	< 27.1 U
SB06A	SB06A-45.0-20171116	11/16/2017	N	5.46	45	< 20.0 U	< 6.93 U	NS	< 37.0 U	< 11.2 U	< 29.3 U
SB06A	SB06A-50.0-20171116	11/16/2017	N	5.46	50	< 22.2 U	< 7.68 U	NS	< 41.0 U	< 12.4 U	< 32.4 UJ

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB07	SB07-6.5-20171103	11/3/2017	N	3.68	6.5	**147**	**7960**	NS	**3440**	**20.1 J**	**314**
SB07	SB07-12.5-20171103	11/3/2017	N	3.68	12.5	**191**	**10700**	NS	**2440**	**16.8 J**	**389**
SB07	SB07-16-20171103	11/3/2017	N	3.68	16	**291**	**25600**	NS	**7400**	**53.8**	**1090**
SB07	SBDUP-01-20171103	11/3/2017	FD	3.68	16	**325**	**26000**	NS	**8390**	**64.3**	**1580**
SB07	SB07-19-20171103	11/3/2017	N	3.68	19	**105**	**36500**	NS	**4080**	**25.1 J**	**632**
SB07	SB07-21.5-20171103	11/3/2017	N	3.68	21.5	< 616 U	**110000**	NS	**2620**	**23.7 J**	**395**
SB07	SB07-23-20171103	11/3/2017	N	3.68	23	**87.0**	**144000**	NS	**2160**	**21.6 J**	**329**
SB07	SB07-25.5-20171103	11/3/2017	N	3.68	25.5	**67.7**	**198000**	NS	**1520**	**15.8 J**	**202**
SB07	SB07-29.5-20171103	11/3/2017	N	3.68	29.3	**34.6 J**	**212000**	NS	**364**	< 10.9 U	< 28.6 U
SB07	SB07-32.5-20171103	11/3/2017	N	3.68	32.5	**29.2 J**	**79700**	NS	**87.3**	< 13.3 U	< 34.7 U
SB07	SB07-34-20171103	11/3/2017	N	3.68	34	< 22.3 U	**35900**	NS	< 41.2 U	< 12.5 U	< 32.6 U
SB07	SB07-39.5-20171103	11/3/2017	N	3.68	39.5	< 19.6 U	**1290**	NS	< 36.2 U	< 10.9 U	< 28.7 U
SB07	SB07-40-20171103	11/3/2017	N	3.68	40	< 18.7 U	**826**	NS	< 34.5 U	< 10.4 U	< 27.3 U
SB07	SB07-41-20171103	11/3/2017	N	3.68	41	< 20.7 U	**467**	NS	< 38.3 U	< 11.6 U	< 30.3 U
SB07	SB07-42.8-20171103	11/3/2017	N	3.68	42.8	< 27.9 U	**65.6**	NS	< 51.6 U	< 15.6 U	< 40.8 U
SB07	SB07-44-20171103	11/3/2017	N	3.68	44	< 20.7 U	**55.8**	NS	< 38.3 U	< 11.6 U	< 30.3 U
SB07	SB07-49-20171103	11/3/2017	N	3.68	49	< 21.1 U	< 7.29 U	NS	< 38.9 U	< 11.7 U	< 30.8 U
SB07	SB07-54-20171103	11/3/2017	N	3.68	54	< 22.5 UJ	< 7.80 UJ	NS	< 41.6 UJ	< 12.6 UJ	< 32.9 UJ
SB07	SB07-59-20171103	11/3/2017	N	3.68	59	< 29.7 U	< 10.3 U	NS	< 54.8 U	< 16.6 U	< 43.4 U
SB07	SB07-63.5-20171103	11/3/2017	N	3.68	63.5	< 21.9 U	< 7.58 U	NS	< 40.4 U	< 12.2 U	< 32.0 U
SB07	SB07-65-20171103	11/3/2017	N	3.68	65	< 22.5 U	< 7.80 U	NS	< 41.6 U	< 12.6 U	< 33.0 U
SB07	SB07-66.8-20171103	11/3/2017	N	3.68	66.8	< 23.0 U	< 7.98 U	NS	< 42.5 U	< 12.8 U	< 33.7 U
SB10A	SB10A-6.5-20171128	11/28/2017	N	4.05	6.5	< 20.2 U	< 6.98 U	NS	< 37.2 U	< 11.2 U	< 29.5 U
SB10A	SB10A-9.0-20171128	11/28/2017	N	4.05	9	< 16.1 U	< 5.57 U	NS	< 29.7 U	< 8.97 U	< 23.5 U
SB10A	SB10A-14.0-20171128	11/28/2017	N	4.05	14	< 17.3 U	< 5.99 U	NS	< 31.9 U	< 9.65 U	< 25.3 U
SB10A	SB10A-19.0-20171128	11/28/2017	N	4.05	19	< 16.5 U	< 5.72 U	NS	< 30.5 U	< 9.22 U	< 24.2 U
SB10A	SB10A-24.0-20171128	11/28/2017	N	4.05	24	< 19.2 U	< 6.63 U	NS	< 35.4 U	< 10.7 U	< 28.0 U
SB10A	SBDUP-03-20171128	11/28/2017	FD	4.05	24	< 17.4 U	< 6.03 U	NS	< 32.1 U	< 9.71 U	< 25.5 U
SB11	SB11-7-20171104	11/4/2017	N	3.68	7	< 22.1 U	**3410**	NS	**8000**	**172**	**1530**
SB11	SB11-9-20171104	11/4/2017	N	3.68	9	< 19.4 U	**16900**	NS	**22600**	**334**	**4760**
SB11	SB11-17.5-20171104	11/4/2017	N	3.68	17.5	**248**	**82700**	NS	**25400**	**404**	**7120**
SB11	SB11-21.5-20171104	11/4/2017	N	3.68	21.5	< 2040 U	**179000**	NS	< 3760 U	< 1140 U	< 2980 U
SB11	SB11-23.5-20171104	11/4/2017	N	3.68	23.5	< 2210 U	**237000**	NS	< 4070 U	< 1230 U	< 3230 U
SB11	SB11-25-20171104	11/4/2017	N	3.68	25	< 2050 U	**1230000**	NS	< 3780 U	< 1140 U	< 3000 U
SB11	SB11-27-20171104	11/4/2017	N	3.68	27	< 2050 U	**237000**	NS	< 3790 U	< 1150 U	< 3000 U
SB11	SB11-30-20171104	11/4/2017	N	3.68	30	< 1810 U	**197000**	NS	< 3340 U	< 1010 U	< 2640 U
SB11	SB11-31.5-20171104	11/4/2017	N	3.68	31.5	< 1920 U	**257000**	NS	< 3550 U	< 1070 U	< 2810 U
SB11	SB11-35-20171104	11/4/2017	N	3.68	35	< 2590 U	**163000**	NS	< 4780 U	< 1450 U	< 3790 U
SB11	SB11-37-20171104	11/4/2017	N	3.68	37	**103**	**93000**	NS	**154**	< 12.4 U	< 32.5 U
SB11	SB11-40-20171104	11/4/2017	N	3.68	40	< 21.0 U	**36400**	NS	**48.2**	< 11.7 U	< 30.8 U
SB11	SB11-44-20171104	11/4/2017	N	3.68	44	< 21.6 U	**11300**	NS	< 39.9 U	< 12.0 U	< 31.5 U
SB11	SB11-49-20171104	11/4/2017	N	3.68	49	< 19.5 U	**131**	NS	< 36.0 U	< 10.9 U	< 28.5 U
SB11	SB11-53.5-20171104	11/4/2017	N	3.68	53.5	< 21.8 U	< 7.56 U	NS	< 40.3 U	< 12.2 U	< 31.9 U
SB11	SB11-56.5-20171104	11/4/2017	N	3.68	56.5	< 20.0 U	< 6.93 U	NS	< 37.0 U	< 11.2 U	< 29.3 U
SB11	SB11-5.5-6-20171104	11/4/2017	N	3.68	5.5-6	< 19.8 U	< 6.85 U	NS	**781**	**23.2 J**	**454**
SB12A	SB12A-7.5-20171107	11/7/2017	N	4.84	7.5	< 19.4 U	**520**	NS	**63.7**	< 10.8 U	< 28.3 U
SB12A	SB12A-10.5-20171107	11/7/2017	N	4.84	10.5	< 16.7 U	**835**	NS	**38.5**	< 9.32 U	< 24.4 U
SB12A	SB12A-16-20171107	11/7/2017	N	4.84	16	< 20.5 U	**1870**	NS	< 37.9 U	< 11.5 U	< 30.0 U
SB12A	SB12A-22-20171107	11/7/2017	N	4.84	22	< 19.5 U	**438**	NS	< 36.0 U	< 10.9 U	< 28.5 U
SB12A	SBDUP-01-20171107	11/7/2017	FD	4.84	22	< 20.5 U	**408**	NS	< 37.9 U	< 11.4 U	< 30.0 U
SB12A	SB12A-27-20171107	11/7/2017	N	4.84	27	< 18.8 U	< 14.5 UB	NS	< 34.7 U	< 10.5 U	< 27.5 U
SB12A	SB12A-32-20171107	11/7/2017	N	4.84	32	< 20.5 U	< 7.11 U	NS	< 37.9 U	< 11.5 U	< 30.0 U
SB12A	SB12A-37-20171107	11/7/2017	N	4.84	37	< 21.2 U	< 7.35 U	NS	< 39.2 U	< 11.8 U	< 31.0 U
SB12A	SB12A-42-20171107	11/7/2017	N	4.84	42	< 18.4 U	< 6.36 U	NS	< 33.9 U	< 10.3 U	< 26.9 U
SB12A	SB12A-47-20171107	11/7/2017	N	4.84	47	< 23.1 U	< 8.01 U	NS	< 42.7 U	< 12.9 U	< 33.8 U
SB12A	SB12A-48-20171107	11/7/2017	N	4.84	48	< 21.0 U	< 7.27 U	NS	< 38.8 U	< 11.7 U	< 30.7 U
SB12A	SB12A-50-20171107	11/7/2017	N	4.84	50	< 20.2 U	< 7.00 U	NS	< 37.4 U	< 11.3 U	< 29.6 U
SB12A	SB12A-51-20171107	11/7/2017	N	4.84	51	< 18.9 U	< 6.56 U	NS	< 35.0 U	< 10.6 U	< 27.7 U
SB12A	SBDUP-03-20171107	11/7/2017	FD	4.84	51	< 19.2 U	< 6.63 U	NS	< 35.4 U	< 10.7 U	< 28.0 U

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB13	SB13-6.0-20171104	11/4/2017	N	5.39	6	< 18.1 U	**127**	NS	< 33.3 U	< 10.1 U	< 26.4 U
SB13A	SB13A-6.5-20171115	11/15/2017	N	5.39	6.5	< 20.1 U	**425**	NS	< 37.2 U	< 11.2 U	< 29.4 U
SB13A	SB13A-11.0-20171115	11/15/2017	N	5.39	11	< 19.1 U	**1640**	NS	**37.2**	< 10.7 U	< 28.0 U
SB13A	SB13A-16.0-20171115	11/15/2017	N	5.39	16	< 16.7 U	**1260**	NS	**31.1 J**	< 9.30 U	< 24.4 U
SB13A	SB13A-18.5-20171115	11/15/2017	N	5.39	18.5	< 17.6 U	**1200**	NS	< 32.6 U	< 9.83 U	< 25.8 U
SB13A	SB13A-23.0-20171115	11/15/2017	N	5.39	23	< 17.0 U	**54.5**	NS	< 31.4 U	< 9.47 U	< 24.8 U
SB13A	SB13A-28.0-20171115	11/15/2017	N	5.39	28	< 18.5 U	**13.2 J**	NS	< 34.1 U	< 10.3 U	< 27.0 U
SB13A	SB13A-33.0-20171115	11/15/2017	N	5.39	33	< 18.8 U	< 6.51 U	NS	< 34.7 U	< 10.5 U	< 27.5 U
SB13A	SBDUP-02-20171115	11/15/2017	FD	5.39	33	< 17.0 U	< 5.89 U	NS	< 31.4 U	< 9.49 U	< 24.9 U
SB13A	SB13A-38.0-20171115	11/15/2017	N	5.39	38	< 19.7 U	< 6.83 U	NS	< 36.4 U	< 11.0 U	< 28.9 U
SB13A	SB13A-43.0-20171115	11/15/2017	N	5.39	43	< 20.4 U	< 7.06 U	NS	< 37.7 U	< 11.4 U	< 29.8 U
SB13A	SB13A-47.7-20171115	11/15/2017	N	5.39	47.7	< 19.7 U	< 6.80 U	NS	< 36.3 U	< 11.0 U	< 28.7 U
SB14A	SB14A-10-20171114	11/14/2017	N	2.71	10	< 20.0 U	< 6.92 U	NS	< 36.9 U	< 11.1 U	< 29.2 U
SB14A	SB14A-15-20171114	11/14/2017	N	2.71	15	< 17.5 U	< 6.04 U	NS	< 32.2 U	< 9.73 U	< 25.5 U
SB14A	SB14A-20-20171114	11/14/2017	N	2.71	20	< 21.7 U	< 7.50 U	NS	< 40.0 U	< 12.1 U	< 31.7 U
SB14A	SB14A-25-20171114	11/14/2017	N	2.71	25	< 18.8 U	< 6.52 U	NS	< 34.8 U	< 10.5 U	< 27.5 U
SB14A	SBDUP-02-20171114	11/14/2017	FD	2.71	25	< 16.9 U	< 5.84 U	NS	< 31.1 U	< 9.41 U	< 24.7 U
SB14A	SB14A-30-20171114	11/14/2017	N	2.71	30	< 20.6 U	< 7.14 U	NS	< 38.1 U	< 11.5 U	< 30.2 U
SB14A	SB14A-35-20171114	11/14/2017	N	2.71	35	< 18.2 U	< 6.29 U	NS	< 33.5 U	< 10.1 U	< 26.5 U
SB14A	SB14A-40-20171114	11/14/2017	N	2.71	40	< 18.9 U	< 6.55 U	NS	< 34.9 U	< 10.6 U	< 27.7 U
SB14A	SB14A-45-20171114	11/14/2017	N	2.71	45	< 17.9 U	< 6.21 U	NS	< 33.1 U	< 10.0 U	< 26.2 U
SB14A	SB14A-50-20171114	11/14/2017	N	2.71	50	< 19.4 U	< 6.72 U	NS	< 35.8 U	< 10.8 U	< 28.4 U
SB14A	SB14A-55-20171114	11/14/2017	N	2.71	55	< 18.2 U	< 6.30 U	NS	< 33.6 U	< 10.1 U	< 26.6 U
SB15	SB15-3.3-20171105	11/5/2017	N	2.22	3.3	< 25.7 U	< 8.89 U	NS	< 47.4 U	< 14.3 U	< 37.6 U
SB15A	SB15A-7.5-20171129	11/29/2017	N	2.22	7.5	< 18.2 U	**328**	NS	**2370**	< 10.2 U	**267**
SB15A	SB15A-10.0-20171129	11/29/2017	N	2.22	10	< 18.1 U	**8710**	NS	**1330**	< 10.1 U	< 26.4 U
SB15A	SB15A-11.0-20171129	11/29/2017	N	2.22	11	< 19.8 U	**13200**	NS	**1340**	< 11.1 U	< 29.0 U
SB15A	SB15A-13.0-20171129	11/29/2017	N	2.22	13	< 18.2 U	**14400**	NS	**1290**	< 10.1 U	< 26.6 U
SB15A	SB15A-16.5-20171129	11/29/2017	N	2.22	16.5	< 17.9 U	**16700**	NS	**1780**	< 9.97 U	**106**
SB15A	SB15A-19.5-20171129	11/29/2017	N	2.22	19.5	< 18.3 U	**18600 J**	NS	**1960**	< 10.2 U	**133**
SB15A	SB15A-21.5-20171129	11/29/2017	N	2.22	21.5	< 19.3 U	**23100 J**	NS	**1870**	< 10.7 UJ	**129 J**
SB15A	SB15A-22.0-20171129	11/29/2017	N	2.22	22	< 18.1 U	**26800 J**	NS	**2080**	< 10.1 U	**145**
SB15A	SB15A-24.0-20171129	11/29/2017	N	2.22	24	< 18.1 U	**33800 J**	NS	**1300**	< 10.1 U	**104**
SB15A	SB15A-26.5-20171129	11/29/2017	N	2.22	26.5	**31.6 J**	**48500 J**	NS	**331**	< 10.2 U	**56.2**
SB15A	SB15A-29.0-20171129	11/29/2017	N	2.22	29	< 18.3 U	**39500 J**	NS	**48.8**	< 10.2 U	< 26.7 U
SB15A	SB15A-31.5-20171129	11/29/2017	N	2.22	31.5	< 19.4 U	**15700**	NS	< 35.9 U	< 10.8 U	< 28.4 U
SB15A	SBDUP-01-20171129	11/29/2017	FD	2.22	31.5	< 17.9 U	**15300**	NS	< 33.0 U	< 9.98 U	< 26.1 U
SB15A	SB15A-34.0-20171129	11/29/2017	N	2.22	34	< 17.2 U	**6670**	NS	< 31.7 U	< 9.58 U	< 25.1 U
SB15A	SB15A-36.0-20171129	11/29/2017	N	2.22	36	< 19.4 U	**10600**	NS	< 35.8 U	< 10.8 U	< 28.3 U
SB15A	SB15A-39.5-20171129	11/29/2017	N	2.22	39.5	< 17.6 U	**21100 J**	NS	< 32.4 U	< 9.79 U	< 25.7 U
SB15A	SB15A-40.5-20171129	11/29/2017	N	2.22	40.5	< 20.2 U	**22700 J**	NS	< 37.4 U	< 11.3 U	< 29.6 U
SB15A	SB15A-42.5-20171129	11/29/2017	N	2.22	42.5	< 18.3 U	**18300 J**	NS	< 33.8 U	< 10.2 U	< 26.8 U
SB15A	SB15A-43.5-20171129	11/29/2017	N	2.22	43.5	< 21.4 U	**17900**	NS	< 39.4 U	< 11.9 U	< 31.2 U
SB15A	SB15A-45.2-20171129	11/29/2017	N	2.22	45.2	< 23.9 U	**5550**	NS	< 44.1 U	< 13.3 U	< 34.9 U
SB15A	SB15A-46.0-20171129	11/29/2017	N	2.22	46	< 19.8 U	**8300**	NS	< 36.6 U	< 11.1 U	< 29.0 U
SB15A	SB15A-46.4-20171129	11/29/2017	N	2.22	46.4	< 16.5 U	**1580**	NS	< 30.5 U	< 9.20 U	< 24.1 U
SB15A	SB15A-48.5-20171129	11/29/2017	N	2.22	48.5	< 19.8 U	**714**	NS	< 36.6 U	< 11.1 U	< 29.0 U
SB15A	SB15A-49.0-20171129	11/29/2017	N	2.22	49	< 16.7 U	**331**	NS	< 30.9 U	< 9.32 U	< 24.4 U
SB15A	SB15A-49.5-20171129	11/29/2017	N	2.22	49.5	< 17.4 U	**55.0**	NS	< 32.2 U	< 9.73 U	< 25.5 U
SB16	SB16-4.5-20171105	11/5/2017	N	4.31	4.5	< 21.0 U	**323**	NS	< 38.8 U	< 11.7 U	< 30.7 U
SB16	SB16-9.5-20171105	11/5/2017	N	4.31	9.5	< 23.9 U	**105**	NS	< 44.1 U	< 13.3 U	< 34.9 U
SB16	SBDUP-01-20171105	11/5/2017	FD	4.31	9.5	< 24.9 U	**86.3**	NS	< 46.1 U	< 13.9 U	< 36.5 U
SB16	SB16-14.5-20171105	11/5/2017	N	4.31	14.5	< 21.8 U	**31.9 J**	NS	< 40.3 U	< 12.2 U	< 31.9 U
SB16	SB16-21-20171105	11/5/2017	N	4.31	21	< 22.8 U	< 7.90 U	NS	< 42.1 U	< 12.7 U	< 33.4 U
SB16	SB16-26-20171105	11/5/2017	N	4.31	26	< 21.2 U	< 7.34 U	NS	< 39.2 U	< 11.8 U	< 31.0 U
SB16	SB16-31-20171105	11/5/2017	N	4.31	31	< 19.4 U	< 6.71 U	NS	< 35.8 U	< 10.8 U	< 28.3 U
SB16	SB16-36-20171105	11/5/2017	N	4.31	36	< 22.0 U	< 7.62 U	NS	< 40.6 U	< 12.3 U	< 32.2 U
SB16	SB16-41-20171105	11/5/2017	N	4.31	41	< 25.1 U	< 8.69 U	NS	< 46.3 U	< 14.0 U	< 36.7 U
SB16	SB16-46-20171105	11/5/2017	N	4.31	46	< 21.7 U	< 7.52 U	NS	< 40.1 U	< 12.1 U	< 31.7 U
SB16	SB16-50.5-20171105	11/5/2017	N	4.31	50.5	< 25.1 U	< 8.69 U	NS	< 46.3 U	< 14.0 U	< 36.7 U
SB16	SB16-52-20171105	11/5/2017	N	4.31	52	< 29.0 U	< 10.0 U	NS	< 53.5 U	< 16.2 U	< 42.4 UJ
SB16	SBDUP-02-20171105	11/5/2017	FD	4.31	52	< 24.4 U	< 8.46 U	NS	< 45.1 U	< 13.6 U	< 35.7 U

Notes are presented on page 10

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Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB17	SB17-6.5-20171118	11/18/2017	N	3.68	6.5	< 23.4 U	**344**	NS	**81.8**	< 13.0 U	< 34.1 U
SB17	SB17-11.0-20171118	11/18/2017	N	3.68	11	< 18.8 U	**997**	NS	**155**	< 10.5 U	< 27.5 U
SB17	SB17-15.0-20171118	11/18/2017	N	3.68	15	< 20.4 U	**1620**	NS	**248**	< 11.4 U	< 29.9 U
SB17	SB17-17.5-20171118	11/18/2017	N	3.68	17.5	**31.7 J**	**3220**	NS	**278**	< 10.8 U	< 28.3 U
SB17	SBDUP-02-20171118	11/18/2017	FD	3.68	17.5	**33.0 J**	**3160**	NS	**260**	< 9.88 U	< 25.9 U
SB17	SB17-20.0-20171118	11/18/2017	N	3.68	20	**58.6**	**4410**	NS	**252**	< 9.94 U	< 26.1 U
SB17	SB17-21.0-20171118	11/18/2017	N	3.68	21	**83.5**	**5890**	NS	**323**	< 10.3 U	< 26.9 U
SB17	SB17-24.0-20171118	11/18/2017	N	3.68	24	**95.7**	**7340**	NS	**381**	< 10.9 U	< 28.5 U
SB17	SB17-30.0-20171118	11/18/2017	N	3.68	30	**20.6 J**	**15600**	NS	**51.1**	< 11.5 U	< 30.1 U
SB17	SB17-31.5-20171118	11/18/2017	N	3.68	31.5	< 21.0 U	**19200**	NS	< 38.7 U	< 11.7 U	< 30.6 U
SB17	SB17-35.0-20171118	11/18/2017	N	3.68	35	**20.8 J**	**30400**	NS	< 34.4 U	< 10.4 U	< 27.2 U
SB17	SB17-37.5-20171118	11/18/2017	N	3.68	37.5	< 19.1 U	**12900**	NS	< 35.3 U	< 10.7 U	< 28.0 U
SB17	SB17-39.0-20171118	11/18/2017	N	3.68	39	< 21.3 U	**6810**	NS	< 39.2 U	< 11.9 U	< 31.1 U
SB17	SB17-41.5-20171118	11/18/2017	N	3.68	41.5	< 19.2 U	**1020**	NS	< 35.4 U	< 10.7 U	< 28.0 U
SB17	SB17-44.5-20171118	11/18/2017	N	3.68	44.5	< 18.5 U	**44.4**	NS	< 34.1 U	< 10.3 U	< 27.0 U
SB17	SB17-46.5-20171118	11/18/2017	N	3.68	46.5	< 21.4 U	**33.4 J**	NS	< 39.5 U	< 11.9 U	< 31.3 U
SB17	SB17-46.6-20171118	11/18/2017	N	3.68	46.6	< 21.1 U	**17.4 J**	NS	< 38.9 U	< 11.7 U	< 30.8 U
SB17	SB17-46.8-20171118	11/18/2017	N	3.68	46.8	< 19.2 U	**24.0 J**	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB17	SB17-52.0-20171118	11/18/2017	N	3.68	52	< 22.1 U	< 7.66 U	NS	< 40.8 U	< 12.3 U	< 32.3 U
SB18	SB18-5.7-20171106	11/6/2017	N	3.68	5.7	< 20.4 U	**9900**	NS	**1850**	< 11.4 U	**192**
SB18	SB18-7.3-20171106	11/6/2017	N	3.68	7.3	< 18.9 U	**17000**	NS	**2890**	< 10.6 U	**283**
SB18	SB18-13.2-20171106	11/6/2017	N	3.68	13.2	**26.7 J**	**87000**	NS	**5450**	**20.2 J**	**683**
SB18	SB18-14.7-20171106	11/6/2017	N	3.68	14.7	**24.3 J**	**93900**	NS	**5320**	**19.3 J**	**669**
SB18	SB18-20.1-20171106	11/6/2017	N	3.68	20.1	< 16.4 U	**129000**	NS	**9080 J**	**29.9 J**	**1040 J**
SB18	SB18-23-20171106	11/6/2017	N	3.68	23	**18.8 J**	**198000**	NS	**5830**	**20.9 J**	**751**
SB18	SB18-24.4-20171106	11/6/2017	N	3.68	24.4	< 17.9 U	**212000**	NS	**3030**	**12.4 J**	**410**
SB18	SB18-24.5-20171106	11/6/2017	N	3.68	24.5	< 20.0 U	**136000**	NS	**1960**	< 11.1 U	**243**
SB18	SB18-24.6-20171106	11/6/2017	N	3.68	24.6	< 18.5 U	**196000**	NS	**2890**	**11.4 J**	**387**
SB18	SB18-28.1-20171106	11/6/2017	N	3.68	28.1	**19.3 J**	**200000**	NS	**510**	< 10.4 U	**71.2**
SB18	SB18-30.8-20171106	11/6/2017	N	3.68	30.8	**21.8 J**	**239000**	NS	**257**	< 10.5 U	< 27.6 U
SB18	SBDUP-02-20171106	11/6/2017	FD	3.68	30.8	**30.1 J**	**250000**	NS	**269**	**9.17 J**	< 24.0 U
SB18	SB18-32-20171106	11/6/2017	N	3.68	32	**33.0 J**	**227000**	NS	**235**	**11.6 J**	< 26.7 U
SB18	SB18-34-20171106	11/6/2017	N	3.68	34	**484**	**832000**	NS	**228**	**15.5 J**	< 28.0 U
SB18	SB18-34.7-20171106	11/6/2017	N	3.68	34.7	**63.1**	**235000**	NS	**154**	**11.2 J**	< 29.4 U
SB18	SB18-39.3-20171106	11/6/2017	N	3.68	39.3	< 19.8 U	**30000**	NS	< 36.5 U	< 11.0 U	< 28.9 U
SB18	SBDUP-04-20171106	11/6/2017	FD	3.68	39.3	< 18.4 U	**29600**	NS	< 34.0 U	< 10.3 U	< 27.0 U
SB18	SB18-44-20171106	11/6/2017	N	3.68	44	< 16.8 U	**1010**	NS	< 31.0 U	< 9.36 U	< 24.5 U
SB19	SB19-5.5-20171106	11/6/2017	N	3.68	5.5	< 24.7 U	< 8.54 U	NS	< 45.5 U	< 13.8 U	< 36.1 U
SB19	SB19-8.5-20171106	11/6/2017	N	3.68	8.5	< 22.2 U	< 7.68 U	NS	< 41.0 U	< 12.4 U	< 32.4 U
SB19	SB19-13-20171106	11/6/2017	N	3.68	13	< 20.2 U	**379**	NS	< 37.3 U	< 11.3 U	< 29.6 U
SB19	SB19-17.5-20171106	11/6/2017	N	3.68	17.5	< 18.0 U	**1810**	NS	**119**	< 10.0 U	< 26.3 U
SB19	SBDUP-01-20171106	11/6/2017	FD	3.68	17.5	< 18.9 U	**1630**	NS	**111**	< 10.6 U	< 27.7 U
SB19	SB19-22.5-20171106	11/6/2017	N	3.68	22.5	< 19.2 U	**50100**	NS	**643**	< 10.7 U	< 28.0 U
SB19	SB19-25-20171106	11/6/2017	N	3.68	25	< 1980 U	**201000**	NS	< 3660 U	< 1100 U	< 2890 U
SB19	SB19-27.5-20171106	11/6/2017	N	3.68	27.5	< 2100 U	**234000**	NS	< 3880 U	< 1170 U	< 3070 U
SB19	SB19-29.5-20171106	11/6/2017	N	3.68	29.5	< 2330 U	**198000**	NS	< 4310 U	< 1300 U	< 3410 U
SB19	SB19-31-20171106	11/6/2017	N	3.68	31	< 2090 U	**221000**	NS	< 3850 U	< 1160 U	< 3050 U
SB19	SB19-32.5-20171106	11/6/2017	N	3.68	32.5	< 2550 U	**122000**	NS	< 4720 U	< 1420 U	< 3730 U
SB19	SB19-34-20171106	11/6/2017	N	3.68	34	< 1830 U	**72600**	NS	< 3380 U	< 1020 U	< 2680 U
SB19	SB19-35-20171106	11/6/2017	N	3.68	35	< 2170 U	**49600**	NS	< 4000 U	< 1210 U	< 3170 U
SB19	SB19-36.5-20171106	11/6/2017	N	3.68	36.5	< 21.4 U	**34800**	NS	< 39.4 U	< 11.9 U	< 31.2 U
SB19	SB19-39-20171106	11/6/2017	N	3.68	39	< 24.6 U	**7970**	NS	< 45.4 U	< 13.7 U	< 36.0 U
SB19	SB19-41.5-20171106	11/6/2017	N	3.68	41.5	< 20.0 U	**1090**	NS	< 36.9 U	< 11.1 U	< 29.2 U
SB19	SBDUP-03-20171106	11/6/2017	FD	3.68	41.5	< 20.0 U	**1180**	NS	< 36.9 U	< 11.2 U	< 29.2 U
SB19	SB19-44.5-20171106	11/6/2017	N	3.68	44.5	< 20.0 U	**94.7**	NS	< 36.9 U	< 11.2 U	< 29.2 U
SB19	SB19-49-20171106	11/6/2017	N	3.68	49	< 20.0 U	< 6.94 U	NS	< 37.0 U	< 11.2 U	< 29.3 U
SB19	SB19-54-20171106	11/6/2017	N	3.68	54	< 21.8 U	< 7.54 U	NS	< 40.2 U	< 12.1 U	< 31.8 U
SB19	SB19-59-20171106	11/6/2017	N	3.68	59	< 21.8 U	< 7.55 U	NS	< 40.3 U	< 12.2 U	< 31.9 U
SB19	SB19-62-20171106	11/6/2017	N	3.68	62	< 17.8 U	< 6.17 U	NS	< 32.9 U	< 9.93 U	< 26.0 U

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Chemical / Sample Depth (ft)	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
SB20	SB20-6.3-20171107	11/7/2017	N	3.68	6.3	< 18.5 U	**1300**	NS	**83.3**	< 10.3 U	< 27.1 U
SB20	SB20-6.7-20171107	11/7/2017	N	3.68	6.7	< 18.5 U	**1440**	NS	**72.9**	< 10.3 U	< 27.0 U
SB20	SB20-7.2-20171107	11/7/2017	N	3.68	7.2	< 17.7 U	**1980**	NS	**85.0**	< 9.86 U	< 25.8 U
SB20	SB20-9.7-20171107	11/7/2017	N	3.68	9.7	< 19.7 U	**42200**	NS	**771**	**12.1 J**	**29.1 J**
SB20	SB20-12.3-20171107	11/7/2017	N	3.68	12.3	< 2000 U	**128000**	NS	< 3700 U	< 1120 U	< 2930 U
SB20	SB20-14.7-20171107	11/7/2017	N	3.68	14.7	< 1850 U	**100000**	NS	**3910**	< 1030 U	< 2700 U
SB20	SB20-19.3-20171107	11/7/2017	N	3.68	19.3	**36.1**	**115000**	NS	**6630**	**41.0**	**369**
SB20	SB20-23.7-20171107	11/7/2017	N	3.68	23.7	< 20.4 U	**108000**	NS	**1890**	**22.3 J**	**72.8**
SB20	SB20-25.7-20171107	11/7/2017	N	3.68	25.7	< 18.2 U	**60500**	NS	**535**	**14.4 J**	< 26.7 U
SB20	SB20-28.7-20171107	11/7/2017	N	3.68	28.7	< 1850 U	< 24500 UB	NS	< 3420 U	< 1030 U	< 2710 U
SB20	SB20-31.3-20171107	11/7/2017	N	3.68	31.3	< 1760 U	**118000**	NS	< 3240 U	< 979 U	< 2570 U
SB20	SBDUP-02-20171107	11/7/2017	FD	3.68	31.3	< 1950 U	**136000**	NS	< 3600 U	< 1090 U	< 2850 U
SB20	SB20-34.3-20171107	11/7/2017	N	3.68	34.3	< 1780 U	**139000**	NS	< 3290 U	< 993 U	< 2600 U
SB20	SB20-38.7-20171107	11/7/2017	N	3.68	38.7	**25.6 J**	**45200**	NS	< 31.9 U	< 9.64 U	< 25.3 U
SB21	SB21-5.7-20171107	11/7/2017	N	3.68	5.7	< 20.0 U	**809**	NS	**46.8**	< 11.1 U	< 29.2 U
SB21	SB21-7.7-20171108	11/8/2017	N	3.68	7.7	< 23.5 U	**1690 J**	NS	< 43.3 U	< 13.1 U	< 34.3 UJ
SB21	SB21-13.3-20171108	11/8/2017	N	3.68	13.3	< 18.8 U	**643**	NS	< 34.8 U	< 10.5 U	< 27.5 U
SB21	SB21-17.3-20171108	11/8/2017	N	3.68	17.3	< 18.5 U	**847**	NS	< 34.2 U	< 10.3 U	< 27.1 U
SB21	SB21-22.7-20171108	11/8/2017	N	3.68	22.7	< 20.2 U	**1890**	NS	< 37.3 U	< 11.3 U	< 29.5 U
SB21	SB21-26.3-20171108	11/8/2017	N	3.68	26.3	< 19.0 U	**2490**	NS	< 35.1 U	< 10.6 U	< 27.8 U
SB21	SB21-31.7-20171108	11/8/2017	N	3.68	31.7	< 18.8 U	**474**	NS	< 34.6 U	< 10.5 U	< 27.4 U
SB21	SBDUP-01-20171108	11/8/2017	FD	3.68	31.7	< 20.2 U	**457**	NS	< 37.4 U	< 11.3 U	< 29.6 U
SB21	SB21-35.7-20171108	11/8/2017	N	3.68	35.7	< 18.6 U	**66.6**	NS	< 34.4 U	< 10.4 U	< 27.2 U
SB22	SB22-5-20171108	11/8/2017	N	4.31	5	< 23.3 U	**12.1 J**	NS	< 43.1 U	< 13.0 U	< 34.1 U
SB22	SB22-11.5-20171108	11/8/2017	N	4.31	11.5	< 20.6 U	**49.6**	NS	< 38.1 U	< 11.5 U	< 30.2 U
SB22	SB22-13.5-20171108	11/8/2017	N	4.31	13.5	< 20.2 U	**68.4**	NS	< 37.3 U	< 11.3 U	< 29.6 U
SB22	SB22-18-20171108	11/8/2017	N	4.31	18	< 19.5 U	**36.5 J**	NS	< 36.1 U	< 10.9 U	< 28.6 UJ
SB22	SBDUP-02-20171108	11/8/2017	FD	4.31	18	< 20.9 U	**24.1 J**	NS	< 38.6 U	< 11.7 U	< 30.6 U
SB22	SB22-24.5-20171108	11/8/2017	N	4.31	24.5	< 21.0 U	< 7.26 U	NS	< 38.7 U	< 11.7 U	< 30.6 U
SB22	SB22-29-20171108	11/8/2017	N	4.31	29	< 19.1 U	< 6.60 U	NS	< 35.2 U	< 10.6 U	< 27.8 U
SB22	SB22-34-20171108	11/8/2017	N	4.31	34	< 20.3 U	< 7.02 U	NS	< 37.4 U	< 11.3 U	< 29.6 U
SB22	SB22-39-20171108	11/8/2017	N	4.31	39	< 19.5 U	< 6.75 U	NS	< 36.0 U	< 10.9 U	< 28.5 U
SB22	SB22-44-20171108	11/8/2017	N	4.31	44	< 20.4 U	< 7.05 U	NS	< 37.6 U	< 11.4 U	< 29.8 U
SB22	SB22-49-20171108	11/8/2017	N	4.31	49	< 20.2 U	< 6.98 U	NS	< 37.2 U	< 11.2 U	< 29.5 U
SB23	SB23-5.7-20171108	11/8/2017	N	3.68	5.7	< 22.7 U	< 7.86 U	NS	< 41.9 U	< 12.7 U	< 33.2 UJ
SB23	SB23-7.0-20171108	11/8/2017	N	3.68	7	< 23.1 U	**15.1 J**	NS	< 42.7 U	< 12.9 U	< 33.8 U
SB23	SB23-11.5-20171108	11/8/2017	N	3.68	11.5	< 19.9 U	< 6.89 U	NS	< 36.8 U	< 11.1 U	< 29.1 U
SB23	SB23-15.7-20171108	11/8/2017	N	3.68	15.7	< 19.2 U	< 6.64 U	NS	< 35.4 U	< 10.7 U	< 28.0 U
SB23	SB23-17.3-20171108	11/8/2017	N	3.68	17.3	< 19.4 U	< 6.72 U	NS	< 35.8 U	< 10.8 U	< 28.4 U
SB23	SB23-22.3-20171108	11/8/2017	N	3.68	22.3	< 21.5 U	< 7.45 U	NS	< 39.7 U	< 12.0 U	< 31.5 U
SB23	SB23-26.6-20171108	11/8/2017	N	3.68	26.6	< 18.5 U	< 6.42 U	NS	< 34.2 U	< 10.3 U	< 27.1 U
SB23	SB23-26.8-20171108	11/8/2017	N	3.68	26.8	< 20.2 U	< 6.98 U	NS	< 37.2 U	< 11.3 U	< 29.5 U
SB23	SB23-27-20171108	11/8/2017	N	3.68	27	< 19.2 U	< 6.66 U	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB23	SB23-32-20171108	11/8/2017	N	3.68	32	< 17.9 U	< 6.20 U	NS	< 33.1 U	< 9.99 U	< 26.2 U
SB24	SB24-5.7-20171113	11/13/2017	N	2.71	5.7	< 20.3 U	**101000**	NS	< 37.5 U	< 11.3 U	< 29.7 U
SB24	SB24-7.3-20171114	11/13/2017	N	2.71	7.3	< 20.9 U	**95300**	NS	< 38.5 U	< 11.6 U	< 30.5 U
SB24	SB24-9.7-20171114	11/14/2017	N	2.71	9.7	< 21.8 U	**14600**	NS	< 40.3 U	< 12.2 U	< 31.9 U
SB24	SB24-10.3-20171114	11/14/2017	N	2.71	10.3	< 20.0 U	**7750**	NS	< 37.0 U	< 11.2 U	< 29.3 U
SB24	SB24-10.7-20171114	11/14/2017	N	2.71	10.7	< 19.8 U	**11400**	NS	< 36.5 U	< 11.0 U	< 28.9 U
SB24	SB24-14.0-20171114	11/14/2017	N	2.71	14	< 18.9 U	**22900**	NS	< 34.9 U	< 10.5 U	< 27.6 U
SB24	SB24-14.2-20171114	11/14/2017	N	2.71	14.2	< 18.8 U	**27600**	NS	< 34.6 U	< 10.5 U	< 27.4 U
SB24	SB24-14.5-20171114	11/14/2017	N	2.71	14.5	< 18.5 U	**30000**	NS	< 34.1 U	< 10.3 U	< 27.0 U
SB24	SB24-16.7-20171114	11/14/2017	N	2.71	16.7	< 19.1 U	**30200**	NS	< 35.2 U	< 10.6 U	< 27.9 U
SB24	SB24-18.2-20171114	11/14/2017	N	2.71	18.2	< 17.3 U	**12900**	NS	< 31.9 U	< 9.64 U	< 25.3 U
SB24	SB24-18.5-20171114	11/14/2017	N	2.71	18.5	< 19.8 U	**10400**	NS	< 36.6 U	< 11.1 U	< 29.0 U
SB24	SB24-18.8-20171114	11/14/2017	N	2.71	18.8	< 20.5 U	**10200**	NS	< 37.9 U	< 11.4 U	< 30.0 U
SB24	SB24-24.7-20171114	11/14/2017	N	2.71	24.7	< 18.4 U	**473**	NS	< 34.0 U	< 10.3 U	< 26.9 U
SB24	SB24-26.3-20171114	11/14/2017	N	2.71	26.3	< 19.4 U	**109**	NS	< 35.8 U	< 10.8 U	< 28.3 U
SB24	SBDUP-01-20171114	11/14/2017	FD	2.71	26.3	< 18.9 U	**110**	NS	< 34.9 U	< 10.5 U	< 27.6 U
SB24	SB24-27.7-20171114	11/14/2017	N	2.71	27.7	< 17.9 U	**180**	NS	< 33.0 U	< 9.98 U	< 26.2 U
SB24	SB24-28.3-20171114	11/14/2017	N	2.71	28.3	< 18.7 U	**261**	NS	< 34.6 U	< 10.4 U	< 27.4 U
SB24	SB24-33.0-20171114	11/14/2017	N	2.71	33	< 17.2 U	**232**	NS	< 31.8 U	< 9.62 U	< 25.2 U
SB24	SB24-37.3-20171114	11/14/2017	N	2.71	37.3	< 18.8 U	**109**	NS	< 34.7 U	< 10.5 U	< 27.5 U

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB25	SB25-6.5-20171114	11/14/2017	N	5.46	6.5	< 20.8 U	< 7.20 U	NS	< 38.4 U	< 11.6 U	< 30.4 U
SB25	SB25-7.8-20171114	11/14/2017	N	5.46	7.8	< 21.7 U	< 7.52 U	NS	< 40.1 U	< 12.1 U	< 31.8 U
SB25	SB25-12.0-20171114	11/14/2017	N	5.46	12	< 20.5 U	< 7.09 U	NS	< 37.8 U	< 11.4 U	< 29.9 U
SB25	SB25-12.7-20171114	11/14/2017	N	5.46	12.7	< 19.3 U	< 6.68 U	NS	< 35.6 U	< 10.8 U	< 28.2 U
SB25	SB25-18.0-20171114	11/14/2017	N	5.46	18	< 18.3 U	< 6.34 U	NS	< 33.8 U	< 10.2 U	< 26.8 U
SB25	SBDUP-04-20171114	11/14/2017	FD	5.46	18	< 17.2 U	< 5.95 U	NS	< 31.7 U	< 9.59 U	< 25.1 U
SB25	SB25-23.0-20171114	11/14/2017	N	5.46	23	< 17.5 U	< 6.05 U	NS	< 32.3 U	< 9.74 U	< 25.5 U
SB25	SB25-28.0-20171115	11/15/2017	N	5.46	28	< 17.4 U	< 6.02 U	NS	< 32.1 U	< 9.69 U	< 25.4 U
SB25	SB25-33.0-20171115	11/15/2017	N	5.46	33	< 18.4 U	< 6.37 U	NS	< 34.0 U	< 10.3 U	< 26.9 U
SB25	SB25-35.3-20171115	11/15/2017	N	5.46	35.3	< 17.7 U	< 6.14 U	NS	< 32.7 U	< 9.89 U	< 25.9 U
SB26	SB26-9.0-20171128	11/28/2017	N	5.39	9	< 20.1 U	**196**	NS	**93.4**	**12.4 J**	< 29.4 U
SB26	SB26-14.0-20171128	11/28/2017	N	5.39	14	< 18.4 U	**58.4**	NS	< 34.0 U	< 10.3 U	< 26.9 U
SB26	SB26-19.0-20171128	11/28/2017	N	5.39	19	< 19.2 U	**30.6 J**	NS	< 35.4 U	< 10.7 U	< 28.0 U
SB26	SB26-21.0-20171128	11/28/2017	N	5.39	21	< 16.9 UJ	**12.0 J**	NS	< 31.2 UJ	< 9.42 UJ	< 24.7 UJ
SB26	SB26-23.5-20171128	11/28/2017	N	5.39	23.5	< 18.5 U	< 6.41 U	NS	< 34.2 U	< 10.3 U	< 27.1 U
SB26	SB26-26.0-20171128	11/28/2017	N	5.39	26	< 17.2 U	< 5.94 U	NS	< 31.7 U	< 9.57 U	< 25.1 U
SB26	SBDUP-01-20171128	11/28/2017	FD	5.39	26	< 16.3 U	< 5.63 U	NS	< 30.0 U	< 9.07 U	< 23.8 U
SB26	SB26-29.7-20171128	11/28/2017	N	5.39	29.7	< 17.9 U	< 6.21 U	NS	< 33.1 U	< 10.0 U	< 26.2 U
SB27	SB27-5.5-20171113	11/13/2017	N	4.31	5.5	< 20.8 U	< 7.21 U	NS	< 38.4 U	< 11.6 U	< 30.4 U
SB27	SB27-10-20171120	11/20/2017	N	4.31	10	< 19.0 U	< 6.59 U	NS	< 35.1 U	< 10.6 U	< 27.8 U
SB27	SB27-15-20171120	11/20/2017	N	4.31	15	< 18.2 U	< 6.29 U	NS	< 33.5 U	< 10.1 U	< 26.5 U
SB27	SB27-20-20171120	11/20/2017	N	4.31	20	< 18.8 U	< 6.49 U	NS	< 34.6 U	< 10.5 U	< 27.4 U
SB27	SBDUP-01-20171120	11/20/2017	FD	4.31	20	< 18.5 U	< 6.41 U	NS	< 34.2 U	< 10.3 U	< 27.1 U
SB27	SB27-26.5-20171120	11/20/2017	N	4.31	26.5	< 33.0 U	< 13.7 U	NS	< 10.2 U	< 11.2 U	< 21.0 U
SB28	SB28-5.0-20171113	11/13/2017	N	2.71	5	< 21.2 U	**760**	NS	< 39.2 U	< 11.8 U	< 31.0 U
SB28	SB28-10.0-20171118	11/18/2017	N	2.71	10	< 18.4 U	**6640**	NS	**194**	< 10.3 U	< 26.9 U
SB28	SB28-14.0-20171118	11/18/2017	N	2.71	14	< 19.6 U	**11000**	NS	**290**	< 10.9 U	< 28.7 U
SB28	SBDUP-01-20171118	11/18/2017	FD	2.71	14	< 17.6 U	**12200**	NS	**290**	< 9.83 U	< 25.8 U
SB28	SB28-19.5-20171118	11/18/2017	N	2.71	19.5	< 21.1 U	**12300**	NS	**211**	< 11.7 U	< 30.8 U
SB28	SB28-23.5-20171118	11/18/2017	N	2.71	23.5	< 17.9 U	**24400**	NS	**151**	< 9.97 U	< 26.1 U
SB28	SB28-27.0-20171118	11/18/2017	N	2.71	27	< 17.9 U	**13000**	NS	< 33.0 U	< 9.96 U	< 26.1 UJ
SB28	SB28A-32.3 -20180221	2/21/2018	N	2.71	32.3	NS	**2250 J**	< 105 U	< 105 UJ	< 105 UJ	< 105 U
SB28	SBDUP01 -20180221	2/21/2018	FD	2.71	32.3	NS	**828 J**	< 107 U	< 107 U	< 107 U	< 107 U
SB28	SB28A-37.3 -20180221	2/21/2018	N	2.71	37.3	NS	**516**	< 108 U	< 108 UJ	< 108 UJ	< 108 U
SB28	SB28A-41.0 -20180221	2/21/2018	N	2.71	41	NS	**299**	< 108 U	< 108 UJ	< 108 UJ	< 108 U
SB28	SB28A-46.8 -20180221	2/21/2018	N	2.71	46.8	NS	**221 J**	< 132 U	< 132 UJ	< 132 UJ	< 132 U
SB29	SB29-9.0-20171114	11/14/2017	N	5.39	9	< 21.1 U	< 7.32 U	NS	< 39.0 U	< 11.8 U	< 30.9 U
SB29	SB29-12.0-20171114	11/14/2017	N	5.39	12	< 20.8 U	< 7.21 U	NS	< 38.4 U	< 11.6 U	< 30.4 U
SB29	SB29-17.0-20171114	11/14/2017	N	5.39	17	< 18.6 U	< 6.43 U	NS	< 34.3 U	< 10.4 U	< 27.2 U
SB29	SB29-22.0-20171114	11/14/2017	N	5.39	22	< 18.7 U	< 6.46 U	NS	< 34.5 U	< 10.4 U	< 27.3 U
SB29	SB29-27.0-20171114	11/14/2017	N	5.39	27	< 20.0 U	< 6.94 U	NS	< 37.0 U	< 11.2 U	< 29.3 U
SB29	SBDUP-03-20171114	11/14/2017	FD	5.39	27	< 18.2 U	< 6.31 U	NS	< 33.7 U	< 10.2 U	< 26.6 U
SB29	SB29-32.0-20171114	11/14/2017	N	5.39	32	< 19.5 U	< 6.74 U	NS	< 35.9 U	< 10.9 U	< 28.5 U
SB29	SB29-37.0-20171114	11/14/2017	N	5.39	37	< 21.7 U	< 7.49 U	NS	< 40.0 U	< 12.1 U	< 31.6 U
SB29	SB29-42.0-20171114	11/14/2017	N	5.39	42	< 19.1 U	< 6.61 U	NS	< 35.3 U	< 10.7 U	< 27.9 U
SB29	SB29-47.0-20171114	11/14/2017	N	5.39	47	< 19.5 U	< 6.76 U	NS	< 36.0 U	< 10.9 U	< 28.5 U
SB29	SB29-50.2-20171114	11/14/2017	N	5.39	50.2	< 21.5 U	< 7.44 U	NS	< 39.7 U	< 12.0 U	< 31.4 U
SB29	SB29-51.0-20171114	11/14/2017	N	5.39	51	< 18.9 U	< 6.54 U	NS	< 34.9 U	< 10.5 U	< 27.6 U
SB29	SB29-52.7-20171114	11/14/2017	N	5.39	52.7	< 19.2 U	< 6.65 U	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB30	SB30-5.3-20171115	11/15/2017	N	3.68	5.3	< 19.6 U	**241 J**	NS	**61.9**	< 10.9 U	< 28.7 U
SB30	SB30-7.3-20171115	11/15/2017	N	3.68	7.3	< 21.1 U	**1110**	NS	**191**	< 11.8 U	< 30.9 U
SB30	SB30-11.3-20171115	11/15/2017	N	3.68	11.3	< 20.9 U	**1680**	NS	**71.6**	< 11.7 U	< 30.6 U
SB30	SB30-12.3-20171115	11/15/2017	N	3.68	12.3	< 17.9 U	**1180**	NS	**40.6**	< 9.97 U	< 26.1 U
SB30	SB30-15.3-20171115	11/15/2017	N	3.68	15.3	< 18.4 U	**866**	NS	< 34.0 U	< 10.3 U	< 26.9 U
SB30	SB30-20.3-20171115	11/15/2017	N	3.68	20.3	< 18.3 U	**724**	NS	< 33.8 U	< 10.2 U	< 26.8 U
SB30	SB30-25.3-20171115	11/15/2017	N	3.68	25.3	< 18.0 U	**311**	NS	< 33.2 U	< 10.0 U	< 26.3 U
SB30	SB30-26.7-20171115	11/15/2017	N	3.68	26.7	< 18.0 U	**287**	NS	< 33.2 U	< 10.0 U	< 26.3 U
SB30	SBDUP-01-20171115	11/15/2017	FD	3.68	26.7	< 17.3 U	**438**	NS	< 31.9 U	< 9.65 U	< 25.3 U

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB31	SB31-6.3-20171115	11/15/2017	N	3.68	6.3	< 21.0 U	< 7.28 U	NS	< 38.8 U	< 11.7 U	< 30.7 U
SB31	SB31-7.8-20171115	11/15/2017	N	3.68	7.8	< 18.5 U	< 6.39 U	NS	< 34.1 U	< 10.3 U	< 27.0 U
SB31	SB31-8.5-20171115	11/15/2017	N	3.68	8.5	< 19.5 U	< 6.76 U	NS	< 36.1 U	< 10.9 U	< 28.5 U
SB31	SB31-13.0-20171115	11/15/2017	N	3.68	13	< 18.1 U	< 6.27 U	NS	< 33.4 U	< 10.1 U	< 26.5 U
SB31	SB31-18.0-20171115	11/15/2017	N	3.68	18	< 17.5 U	< 6.05 UJ	NS	< 32.3 U	< 9.75 U	< 25.5 UJ
SB31	SB31-20.5-20171115	11/15/2017	N	3.68	20.5	< 21.0 U	< 7.27 U	NS	< 38.8 U	< 11.7 U	< 30.7 U
SB31	SB31-24.5-20171115	11/15/2017	N	3.68	24.5	< 17.3 U	< 5.97 U	NS	< 31.8 U	< 9.62 U	< 25.2 U
SB31	SB31-29.0-20171115	11/15/2017	N	3.68	29	< 18.2 U	< 6.31 U	NS	< 33.6 U	< 10.2 U	< 26.6 U
SB31	SBDUP-03-20171115	11/15/2017	FD	3.68	29	< 19.4 U	< 6.70 U	NS	< 35.8 U	< 10.8 U	< 28.3 U
SB31	SB31-30.7-20171115	11/15/2017	N	3.68	30.7	< 17.6 U	< 6.09 U	NS	< 32.5 U	< 9.82 U	< 25.7 U
SB32	SB32-10.5-20171119	11/19/2017	N	5.46	10.5	< 19.6 U	< 6.78 U	NS	< 36.2 U	< 10.9 U	< 28.6 U
SB32	SB32-15.0-20171119	11/19/2017	N	5.46	15	< 19.3 U	< 6.67 U	NS	< 35.6 U	< 10.8 U	< 28.2 U
SB32	SB32-20.0-20171119	11/19/2017	N	5.46	20	< 21.8 U	< 7.55 U	NS	< 40.2 U	< 12.2 U	< 31.9 U
SB32	SBDUP-01-20171119	11/19/2017	FD	5.46	20	< 20.4 U	< 7.06 U	NS	< 37.7 U	< 11.4 U	< 29.8 U
SB32	SB32-25.0-20171119	11/19/2017	N	5.46	25	< 18.2 U	< 6.30 U	NS	< 33.6 U	< 10.2 U	< 26.6 U
SB32	SB32-29.5-20171119	11/19/2017	N	5.46	29.5	< 19.7 U	< 6.81 U	NS	< 36.3 U	< 11.0 U	< 28.7 U
SB33	SB33-5.0-20171119	11/19/2017	N	2.71	5	< 22.7 U	< 7.87 U	NS	< 42.0 U	< 12.7 U	< 33.2 UJ
SB33	SB33-10.0-20171119	11/19/2017	N	2.71	10	< 19.4 U	< 6.70 U	NS	< 35.7 U	< 10.8 U	< 28.3 UJ
SB33	SB33-15.0-20171119	11/19/2017	N	2.71	15	< 16.6 U	< 5.75 U	NS	< 30.7 U	< 9.27 U	< 24.3 UJ
SB33	SB33-20.0-20171119	11/19/2017	N	2.71	20	< 19.1 U	< 6.60 U	NS	< 35.2 U	< 10.6 U	< 27.9 UJ
SB33	SBDUP-03-20171119	11/19/2017	FD	2.71	20	< 16.5 U	< 5.73 U	NS	< 30.5 U	< 9.23 U	< 24.2 UJ
SB33	SB33-25.0-20171119	11/19/2017	N	2.71	25	< 20.2 U	< 6.99 U	NS	< 37.3 U	< 11.3 U	< 29.5 UJ
SB33	SB33-29.0-20171119	11/19/2017	N	2.71	29	< 19.6 U	< 6.79 U	NS	< 36.2 U	< 10.9 U	< 28.7 UJ
SB34	SB34-5.0-20171119	11/19/2017	N	3.68	5	< 23.5 U	< 8.14 U	NS	**57.4**	< 13.1 U	< 34.4 U
SB34	SB34-9.0-20171119	11/19/2017	N	3.68	9	< 23.3 U	**839**	NS	**230**	< 13.0 U	< 34.0 U
SB34	SB34-14.5-20171119	11/19/2017	N	3.68	14.5	< 16.6 U	**1010**	NS	**270**	< 9.28 U	< 24.3 U
SB34	SB34-17.0-20171119	11/19/2017	N	3.68	17	< 19.4 U	**2140**	NS	**106**	< 10.8 U	< 28.3 U
SB34	SB34-19.0-20171119	11/19/2017	N	3.68	19	**18.9 J**	**3970**	NS	**153**	< 9.46 U	< 24.8 U
SB34	SB34-20.5-20171119	11/19/2017	N	3.68	20.5	**25.7 J**	**4910**	NS	**161**	< 10.2 U	< 26.7 U
SB34	SBDUP-02-20171119	11/19/2017	FD	3.68	20.5	**31.3 J**	**5800**	NS	**182**	< 10.4 U	< 27.3 U
SB34	SB34-25.0-20171119	11/19/2017	N	3.68	25	**21.1 J**	**28500**	NS	**74.5**	< 10.0 U	< 26.3 U
SB34	SB34-27.5-20171119	11/19/2017	N	3.68	27.5	**19.0 J**	**81200**	NS	**46.5**	< 10.2 U	< 26.8 U
SB34	SB34-29.5-20171119	11/19/2017	N	3.68	29.5	**20.8 J**	**78000**	NS	**54.8**	< 11.2 U	< 29.3 U
SB34	SB34-32.0-20171119	11/19/2017	N	3.68	32	< 19.9 U	**38000**	NS	< 36.7 U	< 11.1 U	< 29.1 U
SB34	SB34-35.0-20171119	11/19/2017	N	3.68	35	< 17.9 U	**28200**	NS	< 33.0 U	< 9.97 U	< 26.1 U
SB34	SB34-36.5-20171119	11/19/2017	N	3.68	36.5	< 16.1 U	**34000**	NS	< 29.7 U	< 8.97 U	< 23.5 U
SB34	SB34-37.5-20171119	11/19/2017	N	3.68	37.5	< 18.2 U	**39400**	NS	< 33.6 U	< 10.1 U	< 26.6 U
SB34	SB34-40.0-20171119	11/19/2017	N	3.68	40	< 17.5 U	**37900**	NS	< 32.4 U	< 9.77 U	< 25.6 U
SB34	SB34-42.0-20171119	11/19/2017	N	3.68	42	< 18.7 U	**43300**	NS	< 34.6 U	< 10.4 U	< 27.4 U
SB34	SB34-42.5-20171119	11/19/2017	N	3.68	42.5	< 20.0 U	**37500**	NS	< 36.9 U	< 11.1 U	< 29.2 U
SB34	SB34-44.5-20171119	11/19/2017	N	3.68	44.5	< 21.2 U	**23900**	NS	< 39.1 U	< 11.8 U	< 31.0 U
SB34	SB34-47.5-20171119	11/19/2017	N	3.68	47.5	< 20.4 U	**5380**	NS	< 37.8 U	< 11.4 U	< 29.9 UJ
SB34	SB34-48.5-20171119	11/19/2017	N	3.68	48.5	< 23.1 U	**2940**	NS	< 42.7 U	< 12.9 U	< 33.8 U
SB34	SB34-52.0-20171119	11/19/2017	N	3.68	52	< 22.7 U	**151**	NS	< 41.9 U	< 12.7 U	< 33.2 U
SB34	SB34-57.0-20171119	11/19/2017	N	3.68	57	< 20.3 U	< 7.03 U	NS	< 37.5 U	< 11.3 U	< 29.7 U
SB35	SB35-6.0-20171120	11/20/2017	N	3.68	6	< 23.1 U	< 8.00 U	NS	< 42.7 U	< 12.9 U	< 33.8 UJ
SB35	SB35-10.0-20171120	11/20/2017	N	3.68	10	< 20.1 U	**14500**	NS	**2320**	**13.9 J**	**265 J**
SB35	SB35-12.5-20171120	11/20/2017	N	3.68	12.5	< 18.9 U	**24600 J**	NS	**4190**	**21.8 J**	**342 J**
SB35	SB35-15.0-20171120	11/20/2017	N	3.68	15	< 185 U	**20200**	NS	**2690**	< 103 U	< 271 UJ
SB35	SB35-16.5-20171120	11/20/2017	N	3.68	16.5	< 17.6 U	**27900 J**	NS	**3920**	**21.4 J**	**292 J**
SB35	SB35-20.0-20171120	11/20/2017	N	3.68	20	< 18.1 U	**14600**	NS	**1310**	< 10.1 U	**105 J**
SB35	SB35-22.0-20171120	11/20/2017	N	3.68	22	< 18.5 U	**26800 J**	NS	**1730**	**12.8 J**	**167 J**
SB35	SB35-24.5-20171120	11/20/2017	N	3.68	24.5	< 172 U	**65100**	NS	**439**	< 95.8 U	< 251 UJ
SB35	SB35-27.0-20171120	11/20/2017	N	3.68	27	< 19.1 U	**31700 J**	NS	**1350**	**11.0 J**	**145 J**
SB35	SB35-29.5-20171120	11/20/2017	N	3.68	29.5	< 199 U	**133000**	NS	< 368 U	< 111 U	< 291 UJ
SB35	SB35-30.5-20171120	11/20/2017	N	3.68	30.5	< 200 U	**121000**	NS	< 368 U	< 111 U	< 292 UJ
SB35	SB35-33.0-20171120	11/20/2017	N	3.68	33	< 21.6 U	**43700 J**	NS	< 39.9 U	< 12.1 U	< 31.6 UJ
SB35	SB35-35.5-20171120	11/20/2017	N	3.68	35.5	< 16.8 U	**14800**	NS	< 31.0 U	< 9.36 U	< 24.5 UJ
SB35	SBDUP-02-20171120	11/20/2017	FD	3.68	35.5	< 16.7 U	**14500**	NS	< 30.9 U	< 9.33 U	< 24.4 U
SB35	SB35-39.5-20171120	11/20/2017	N	3.68	39.5	< 18.3 U	**170**	NS	< 33.8 U	< 10.2 U	< 26.8 UJ
SB35	SB35-40.5-20171120	11/20/2017	N	3.68	40.5	< 19.8 U	**95.1**	NS	< 36.5 U	< 11.0 U	< 28.9 UJ
SB35	SB35-46.0-20171120	11/20/2017	N	3.68	46	< 20.8 U	**76.1**	NS	< 38.5 U	< 11.6 U	< 30.4 U
SB35	SB35-51.0-20171120	11/20/2017	N	3.68	51	< 19.4 U	**110**	NS	< 35.8 U	< 10.8 U	< 28.3 U
SB35	SB35-52.8-20171120	11/20/2017	N	3.68	52.8	< 26.6 U	**29.6 J**	NS	< 49.0 U	< 14.8 U	< 38.8 U

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB36	SB36-5.0-20171128	11/28/2017	N	2.22	5	< 23.1 U	< 7.99 U	NS	< 42.6 U	< 12.9 U	< 33.7 U
SB36	SBDUP-02-20171128	11/28/2017	FD	2.22	5	< 20.1 U	**2180**	NS	**212**	< 11.2 U	**36.7 J**
SB36	SB36-10.0-20171128	11/28/2017	N	2.22	10	< 19.0 U	**363**	NS	**90.7**	< 10.6 U	< 27.8 U
SB36	SB36-12.0-20171128	11/28/2017	N	2.22	12	< 19.7 U	**2160**	NS	**260**	< 11.0 U	< 28.7 U
SB36	SB36-13.5-20171128	11/28/2017	N	2.22	13.5	< 17.3 U	**1680**	NS	**172 J**	< 9.66 UJ	< 25.3 UJ
SB36	SB36-17.0-20171128	11/28/2017	N	2.22	17	< 19.4 U	**2700**	NS	**252**	< 10.8 U	< 28.4 U
SB36	SB36-20.0-20171128	11/28/2017	N	2.22	20	< 19.1 U	**1530**	NS	**92.6**	< 10.7 U	< 27.9 U
SB36	SB36-23.5-20171128	11/28/2017	N	2.22	23.5	< 20.7 U	**1830**	NS	**50.1**	< 11.5 U	< 30.2 U
SB36	SB36-27.5-20171128	11/28/2017	N	2.22	27.5	< 19.1 U	**435**	NS	< 35.3 U	< 10.7 U	< 27.9 U
SB36	SB36-28.5-20171128	11/28/2017	N	2.22	28.5	< 19.4 U	**377**	NS	< 35.8 U	< 10.8 U	< 28.4 U
SB36	SB36-31.0-20171128	11/28/2017	N	2.22	31	< 19.5 U	**101**	NS	< 36.1 U	< 10.9 U	< 28.6 U
SB36	SB36-36.0-20171128	11/28/2017	N	2.22	36	< 20.0 U	< 6.93 U	NS	< 36.9 U	< 11.2 U	< 29.2 U
SB36	SB36-41.0-20171128	11/28/2017	N	2.22	41	< 18.1 U	< 6.28 U	NS	< 33.5 U	< 10.1 U	< 26.5 U
SB36	SB36-45.5-20171128	11/28/2017	N	2.22	45.5	< 21.8 U	< 7.55 U	NS	< 40.3 U	< 12.2 U	< 31.9 U
SB36	SB36-46.0-20171128	11/28/2017	N	2.22	46	< 21.0 U	< 7.28 U	NS	< 38.8 U	< 11.7 U	< 30.7 U
SB36	SB36-46.5-20171128	11/28/2017	N	2.22	46.5	< 21.1 U	< 7.32 U	NS	< 39.0 U	< 11.8 U	< 30.9 U
SB37	SB37-5.7-20171129	11/29/2017	N	4.84	5.7	< 24.1 U	< 8.35 U	NS	< 44.5 U	< 13.5 U	< 35.3 U
SB37	SB37-7.0-20171129	11/29/2017	N	4.84	7	< 21.6 U	< 7.47 U	NS	< 39.8 U	< 12.0 U	< 31.5 U
SB37	SBDUP-02-20171129	11/29/2017	FD	4.84	7	< 19.0 U	< 6.56 U	NS	< 35.0 U	< 10.6 U	< 27.7 U
SB37	SB37-9.0-20171129	11/29/2017	N	4.84	9	< 23.1 U	< 8.01 U	NS	< 42.7 U	< 12.9 U	< 33.8 U
SB37	SB37-9.7-20171129	11/29/2017	N	4.84	9.7	< 21.6 U	< 7.49 U	NS	< 40.0 U	< 12.1 U	< 31.6 U
SB37	SB37-12.0-20171129	11/29/2017	N	4.84	12	< 22.0 U	**41.0 J**	NS	< 40.6 U	< 12.3 U	< 32.1 U
SB37	SB37-14.0-20171129	11/29/2017	N	4.84	14	< 31.1 U	**296**	NS	< 57.4 U	< 17.3 U	**72.3**
SB37	SB37-17.0-20171129	11/29/2017	N	4.84	17	< 19.1 U	< 6.61 U	NS	< 35.3 U	< 10.7 U	< 27.9 U
SB37	SB37-22.0-20171129	11/29/2017	N	4.84	22	< 19.2 U	< 6.65 U	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB37	SB37-24.7-20171129	11/29/2017	N	4.84	24.7	< 16.7 U	< 5.80 U	NS	< 30.9 U	< 9.34 U	< 24.5 U
SB38	SB38-11.8-20171129	11/29/2017	N	10.04	11.8	< 17.8 U	< 6.16 U	NS	< 32.8 U	< 9.92 U	< 26.0 U
SB38	SB38-14.5-20171129	11/29/2017	N	10.04	14.5	< 18.6 U	**2130**	NS	**347**	< 10.4 U	< 27.2 U
SB38	SB38-16-20171129	11/29/2017	N	10.04	16	< 19.7 U	**2700**	NS	**526**	< 11.0 U	< 28.9 U
SB38	SB38-19.6-20171129	11/29/2017	N	10.04	19.6	< 18.9 U	**4320**	NS	**676**	< 10.5 U	< 27.6 U
SB38	SB38-19.9-20171129	11/29/2017	N	10.04	19.9	< 19.5 U	**2270**	NS	**491**	< 10.9 U	< 28.5 U
SB38	SB38-21.3-20171129	11/29/2017	N	10.04	21.3	< 213 U	**7240**	NS	**1230**	< 119 U	< 311 U
SB38	SBDUP-3-20171129	11/29/2017	FD	10.04	21.3	**28.7 J**	**7920**	NS	**1170**	< 10.8 U	< 28.3 U
SB38	SB38-22.7-20171129	11/29/2017	N	10.04	22.7	**22.8 J**	**10100**	NS	**805**	< 12.0 U	< 31.5 U
SB38	SB38-23.0-20171129	11/29/2017	N	10.04	23	**26.2 J**	**11300**	NS	**734**	< 11.0 U	< 28.9 U
SB38	SB38-24.9-20171129	11/29/2017	N	10.04	24.9	< 20.0 U	**10400**	NS	**527**	< 11.1 U	< 29.2 U
SB39	SB39-5.7-20171129	11/29/2017	N	3.68	5.7	< 20.1 U	**33.2 J**	NS	< 37.1 U	< 11.2 U	< 29.3 U
SB39	SB39-9.0-20171129	11/29/2017	N	3.68	9	< 20.5 U	**214**	NS	< 37.8 U	< 11.4 U	< 29.9 U
SB39	SB39-11.3-20171129	11/29/2017	N	3.68	11.3	< 19.1 U	**209**	NS	< 35.3 U	< 10.7 U	< 28.0 U
SB39	SB39-11.7-20171129	11/29/2017	N	3.68	11.7	< 18.8 U	**307**	NS	< 34.7 U	< 10.5 U	< 27.5 U
SB39	SB39-16.5-20171129	11/29/2017	N	3.68	16.5	< 19.7 UJ	**266 J**	NS	< 36.5 U	< 11.0 U	< 28.9 UJ
SB39	SB39-19.0-20171129	11/29/2017	N	3.68	19	< 19.2 U	**224**	NS	< 35.4 U	< 10.7 U	< 28.1 U
SB39	SB39-22.3-20171129	11/29/2017	N	3.68	22.3	< 18.1 U	**126**	NS	< 33.5 U	< 10.1 U	< 26.5 U
SB39	SBDUP-4-20171129	11/29/2017	FD	3.68	22.3	< 17.9 U	**105**	NS	< 33.0 U	< 9.96 U	< 26.1 U
SB40	SB40-5.0-20171130	11/30/2017	N	2.22	5	< 24.7 U	< 8.56 U	NS	< 45.6 U	< 13.8 U	< 36.1 U
SB40	SB40-7.0-20171130	11/30/2017	N	2.22	7	< 20.6 U	< 7.13 U	NS	< 38.0 U	< 11.5 U	< 30.1 U
SB40	SB40-12.0-20171130	11/30/2017	N	2.22	12	< 20.7 U	**575**	NS	**281**	**13.5 J**	< 30.2 U
SB40	SBDUP-01-20171130	11/30/2017	FD	2.22	12	< 19.6 U	**1340**	NS	**248**	< 10.9 U	**69.7**
SB40	SB40-14.5-20171130	11/30/2017	N	2.22	14.5	< 18.6 U	**1760**	NS	**373**	**11.1 J**	< 27.1 U
SB40	SB40-17.0-20171130	11/30/2017	N	2.22	17	< 21.2 U	**3440**	NS	**503**	< 11.9 U	< 31.1 U
SB40	SB40-19.5-20171130	11/30/2017	N	2.22	19.5	< 20.7 U	**3470**	NS	**252**	< 11.6 U	< 30.3 U
SB40	SB40-21.5-20171130	11/30/2017	N	2.22	21.5	< 21.3 U	**2760**	NS	**124**	< 11.9 U	< 31.1 U
SB40	SB40-24.0-20171130	11/30/2017	N	2.22	24	< 20.0 U	**1310**	NS	< 37.0 U	< 11.2 U	< 29.3 U
SB40	SB40-27.0-20171130	11/30/2017	N	2.22	27	< 20.3 U	**1140**	NS	< 37.5 U	< 11.3 U	< 29.7 U
SB40	SB40-30.0-20171130	11/30/2017	N	2.22	30	< 17.9 U	**994**	NS	< 33.1 U	< 9.99 U	< 26.2 U
SB40	SB40-32.0-20171130	11/30/2017	N	2.22	32	< 18.8 U	**168**	NS	< 34.7 U	< 10.5 U	< 27.5 U
SB40	SB40-37.0-20171130	11/30/2017	N	2.22	37	< 18.4 U	< 6.36 U	NS	< 33.9 U	< 10.3 U	< 26.9 U
SB40	SB40-42.0-20171130	11/30/2017	N	2.22	42	< 19.0 U	< 6.57 U	NS	< 35.0 U	< 10.6 U	< 27.7 U
SB40	SB40-46.0-20171130	11/30/2017	N	2.22	46	< 20.8 U	< 7.22 U	NS	< 38.5 U	< 11.6 U	< 30.5 U
SB40	SB40-46.5-20171130	11/30/2017	N	2.22	46.5	< 24.8 U	< 8.59 U	NS	< 45.8 U	< 13.8 U	< 36.3 U
SB40	SB40-46.7-20171130	11/30/2017	N	2.22	46.7	< 18.6 U	< 6.45 U	NS	< 34.4 U	< 10.4 U	< 27.2 U
SB40	SB40-47.0-20171130	11/30/2017	N	2.22	47	< 21.2 U	< 7.35 U	NS	< 39.2 U	< 11.8 U	< 31.0 U
SB40	SB40-49.0-20171130	11/30/2017	N	2.22	49	< 20.8 U	< 7.21 U	NS	< 38.4 U	< 11.6 U	< 30.4 U
SB40	SB40-51.0-20171130	11/30/2017	N	2.22	51	< 22.8 U	< 7.88 U	NS	< 42.0 U	< 12.7 U	< 33.3 U
SB40	SB40-52.0-20171130	11/30/2017	N	2.22	52	< 21.1 U	< 7.30 U	NS	< 38.9 U	< 11.8 U	< 30.8 U

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						
SB41	SB41-5.7-20171130	11/30/2017	N	0.75	5.7	< 24.4 U	< 8.45 U	NS	< 45.1 U	< 13.6 U	< 35.7 U
SB41	SB41-8.0-20171130	11/30/2017	N	0.75	8	< 21.0 U	< 7.29 U	NS	< 38.9 U	< 11.7 U	< 30.8 U
SB41	SB41-13.0-20171130	11/30/2017	N	0.75	13	< 23.1 U	< 8.01 U	NS	< 42.7 U	< 12.9 U	< 33.8 U
SB41	SB41-18.0-20171130	11/30/2017	N	0.75	18	< 20.2 U	< 6.99 U	NS	< 37.3 U	< 11.3 U	< 29.5 U
SB41	SBDUP-02-20171130	11/30/2017	FD	0.75	18	< 19.5 U	< 6.76 U	NS	< 36.0 U	< 10.9 U	< 28.5 U
SB41	SB41-20.5-20171130	11/30/2017	N	0.75	20.5	< 19.8 U	< 6.86 U	NS	< 36.6 U	< 11.1 U	< 29.0 U
SB41	SB41-24.7-20171130	11/30/2017	N	0.75	24.7	< 21.7 U	< 7.51 U	NS	< 40.1 U	< 12.1 U	< 31.7 U
SB42	SB42-7.5-20171130	11/30/2017	N	7.16	7.5	< 23.4 U	**986 J**	NS	**558 J**	< 13.0 U	< 34.2 UJ
SB42	SB42-8.5-20171130	11/30/2017	N	7.16	8.5	< 20.4 U	**1200**	NS	**715**	< 11.4 U	< 29.9 U
SB42	SB42-11.5-20171130	11/30/2017	N	7.16	11.5	< 18.8 U	**2250**	NS	**1070**	< 10.5 U	< 27.5 U
SB42	SB42-13.0-20171130	11/30/2017	N	7.16	13	< 18.1 U	**2510**	NS	**1260**	< 10.1 U	< 26.5 U
SB42	SB42-16.5-20171130	11/30/2017	N	7.16	16.5	< 22.5 U	**4800**	NS	**902**	< 12.5 U	< 32.9 U
SB42	SB42-18.5-20171130	11/30/2017	N	7.16	18.5	< 21.3 U	**4950**	NS	**634**	< 11.9 U	**49.5**
SB42	SB42-22.5-20171130	11/30/2017	N	7.16	22.5	< 23.7 U	**469**	NS	**106**	< 13.2 U	< 34.6 U
SB42	SB42-27.5-20171130	11/30/2017	N	7.16	27.5	< 17.3 U	**5970**	NS	**74.2**	< 9.65 U	< 25.3 U
SB42	SB42-29.5-20171201	12/1/2017	N	7.16	29.5	< 17.9 U	**4420**	NS	**43.3**	< 9.96 U	< 26.1 U
SB42	SB42-31.0-20171201	12/1/2017	N	7.16	31	< 19.4 U	**3180**	NS	**95.4**	< 10.8 U	< 28.3 U
SB42	SB42-33.0-20171201	12/1/2017	N	7.16	33	< 23.6 U	**2910**	NS	**171**	< 13.1 U	< 34.4 U
SB42	SB42-36.5-20171201	12/1/2017	N	7.16	36.5	< 18.4 U	**367**	NS	< 34.0 U	< 10.3 U	< 27.0 U
SB42	SB42-39.0-20171201	12/1/2017	N	7.16	39	< 21.0 U	**422**	NS	< 38.8 U	< 11.7 U	< 30.7 U
SB42	SB42-39.9-20171201	12/1/2017	N	7.16	39.9	< 19.2 U	**461**	NS	< 35.5 U	< 10.7 U	< 28.1 U
SB42	SB42-40.0-20171201	12/1/2017	N	7.16	40	< 18.3 U	**506**	NS	< 33.8 U	< 10.2 U	< 26.8 U
SB43	SB43-5.7-20171201	12/1/2017	N	2.22	5.7	< 44.3 UJ	< 18.4 UJ	NS	< 13.7 UJ	< 15.1 UJ	< 28.3 UJ
SB44	SB44-5.3 (20180220)	2/20/2018	N	2.71	5.3	NS	**26700**	< 112 U	< 112 U	< 112 U	< 112 U
SB44	SB44-9.5 (20180220)	2/20/2018	N	2.71	9.5	NS	**13100**	< 123 U	< 123 U	< 123 U	< 123 U
SB44	SB44-14.8 (20180220)	2/20/2018	N	2.71	14.8	NS	**123 J**	< 107 U	< 107 U	< 107 U	< 107 U
SB45	SB45-5.7 (20180220)	2/20/2018	N	2.71	5.7	NS	**27000**	< 111 U	< 111 U	< 111 U	< 111 U
SB45	SB45-9.4 (20180220)	2/20/2018	N	2.71	9.4	NS	**2580**	< 106 U	< 106 U	< 106 U	< 106 U
SB45	SB45-14.2 (20180220)	2/20/2018	N	2.71	14.2	NS	< 105 U	< 105 U	< 105 U	< 105 U	< 105 U
SB46	SB46-5.8 (20180220)	2/20/2018	N	2.71	5.8	NS	**27700**	< 114 U	< 114 U	< 114 U	< 114 U
SB46	SB46-9.3 (20180220)	2/20/2018	N	2.71	9.3	NS	**13500**	< 118 U	< 118 U	< 118 U	< 118 U
SB46	SB46-14.8 (20180220)	2/20/2018	N	2.71	14.8	NS	**6780**	< 111 U	< 111 U	< 111 U	< 111 U
SB46	SB46-17.3 (20180220)	2/20/2018	N	2.71	17.3	NS	**3170**	< 106 U	< 106 U	< 106 U	< 106 U
SB47	SB47-5.6 (20180220)	2/20/2018	N	2.71	5.6	NS	**14700**	< 116 U	< 116 U	< 116 U	< 116 U
SB47	SB47-9.7 (20180220)	2/20/2018	N	2.71	9.7	NS	**3730**	< 111 U	< 111 U	< 111 U	< 111 U
SB47	SB47-14.7 (20180220)	2/20/2018	N	2.71	14.7	NS	**2340**	< 103 U	< 103 U	< 103 U	< 103 U
SB48	SB48-11.0 -20180221	2/21/2018	N	10.04	11	NS	< 128 U	< 128 U	**212 J**	< 128 UJ	< 128 U
SB48	SB48-17.3 -20180221	2/21/2018	N	10.04	17.3	NS	**20900**	< 102 U	**1750 J**	< 102 UJ	< 102 U
SB48	SB48-21.7 -20180221	2/21/2018	N	10.04	21.7	NS	**21300**	< 106 U	**1250 J**	< 106 UJ	< 106 U
SB48	SB48-27.8 -20180221	2/21/2018	N	10.04	27.8	NS	**20700**	< 98.7 U	**784 J**	< 98.7 UJ	< 98.7 U
SB48	SB48-31.3 -20180221	2/21/2018	N	10.04	31.3	NS	**36600**	< 112 U	< 112 UJ	< 112 UJ	< 112 U
SB48	SB48-36.8 -20180221	2/21/2018	N	10.04	36.8	NS	**20000**	< 104 U	< 104 UJ	< 104 UJ	< 104 U
SB48	SB48-42.8 -20180221	2/21/2018	N	10.04	42.8	NS	**90900**	< 2240 U	< 2240 U	< 2240 U	< 2240 U
SB48	SB48-46.3 -20180221	2/21/2018	N	10.04	46.3	NS	**36200**	< 1030 U	< 1030 U	< 1030 U	< 1030 U
SB48	SB48-52.8 -20180222	2/22/2018	N	10.04	52.8	NS	**223**	< 110 U	< 110 U	< 110 U	< 110 U
SB49	SB49-7.0 -20180222	2/22/2018	N	3.88	7	NS	< 120 U	< 120 U	< 120 U	< 120 U	< 120 U
SB49	SB49-13.0 -20180222	2/22/2018	N	3.88	13	NS	**11800**	< 108 U	< 108 U	< 108 U	< 108 U
SB49	SBDUP01 -20180222	2/22/2018	FD	3.88	13	NS	**12500**	< 107 U	< 107 U	< 107 U	< 107 U
SB49	SB49-15.2 -20180222	2/22/2018	N	3.88	15.2	NS	**12000**	< 220 U	< 220 U	< 220 U	< 220 U
SB49	SB49-21.8 -20180222	2/22/2018	N	3.88	21.8	NS	**7960**	< 108 U	< 108 U	< 108 U	< 108 U
SB49	SB49-27.7 -20180222	2/22/2018	N	3.88	27.7	NS	**2450**	< 121 U	< 121 U	< 121 U	< 121 U
SB49	SB49-32.4 -20180222	2/22/2018	N	3.88	32.4	NS	**764**	< 109 U	< 109 U	< 109 U	< 109 U
SB49	SB49-37.4 -20180222	2/22/2018	N	3.88	37.4	NS	< 115 U	< 115 U	< 115 U	< 115 U	< 115 U
SB49	SB49-43.0 -20180222	2/22/2018	N	3.88	43	NS	< 115 U	< 115 U	< 115 U	< 115 U	< 115 U
SB49	SB49-49.5 -20180222	2/22/2018	N	3.88	49.5	NS	< 117 U	< 117 U	< 117 U	< 117 U	< 117 U
SB50	SB50-12.0 -20180222	2/22/2018	N	10.04	12	NS	< 109 U	< 109 U	< 109 U	< 109 U	< 109 U
SB50	SB50-17.0 -20180222	2/22/2018	N	10.04	17	NS	< 110 U	< 110 U	< 110 U	< 110 U	< 110 U
SB50	SB50-22.0 -20180222	2/22/2018	N	10.04	22	NS	< 112 U	< 112 U	< 112 U	< 112 U	< 112 U
SB50	SB50-27.0 -20180222	2/22/2018	N	10.04	27	NS	< 109 U	< 109 U	< 109 U	< 109 U	< 109 U
SB50	SB50-32.0 -20180222	2/22/2018	N	10.04	32	NS	< 106 U	< 106 U	< 106 U	< 106 U	< 106 U
SB50	SB50-37.0 -20180222	2/22/2018	N	10.04	37	NS	< 105 U	< 105 U	< 105 U	< 105 U	< 105 U
SB50	SB50-42.0 20180222	2/22/2018	N	10.04	42	NS	< 108 U	< 108 U	< 108 U	< 108 U	< 108 U
SB50	SB50-47.0 -20180222	2/22/2018	N	10.04	47	NS	< 111 U	< 111 U	< 111 U	< 111 U	< 111 UJ
SB50	SB50-48.5 -20180222	2/22/2018	N	10.04	48.5	NS	< 114 U	< 114 U	< 114 U	< 114 U	< 114 U
SB50	SBDUP02 -20180222	2/22/2018	FD	10.04	48.5	NS	< 107 U	< 107 U	< 107 U	< 107 U	< 107 U

Notes are presented on page 10

Table 12. Analytical Results for CVOCs in Saturated Soil from 2017-2018 Borings
Toastmaster Macon Site, Macon, Missouri

					Chemical	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
					CASRN	127-18-4	79-01-6	75-35-4	156-59-2	156-60-5	75-01-4
					Unit	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Location	Sample ID	Sample Date	Sample Type	Relative Water Table Depth (ft bgs)	Sample Depth (ft)						

Notes:
Soil samples were analyzed onsite by Cascade mobile laboratory for Method 8260C Volatile Organics by GC/MS.
Detections are boldfaced
Concentration exceeds Residential Soil Regional Screening Level (RSL)
< Not detected at or above the method detection limit, as shown.
Letter suffix in sample name indicates a sample collected from a stepped-over adjacent soil boring (e.g. samples collected from SB03A are adjacent to the SB03 borehole)
CASRN - Chemical Abstracts Service Registry Number
N - Normal Sample
NS - Not Sampled
FD - Field Duplicate
ft - feet
ug/kg - micrograms per kilogram
U - non-detect
J - Result is considered to be estimated at the value reported.
UB – Non-detect at the sample concentration due to associated blank contamination.
UJ - Result is considered not detected but estimated due to QC deficiencies.

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Table 13. Co-located Grab Groundwater and Soil Sample Comparison
Toastmaster Macon Site - Macon, Missouri

Grab Groundwater Results								Co-Located Soil Results								Hydrofacies	Trichloroethene		cis-1,2-Dichloroethene		Vinyl chloride	
Sample ID	Units	Trichloroethene		cis-1,2-Dichloroethene		Vinyl chloride		Sample ID	Units	Trichloroethene		cis-1,2-Dichloroethene		Vinyl chloride			Calculated Soil to Groundwater Conversion Ratio*	Observed Soil to Groundwater Ratio	Calculated Soil to Groundwater Conversion Ratio*	Observed Soil to Groundwater Ratio	Calculated Soil to Groundwater Conversion Ratio*	Observed Soil to Groundwater Ratio
GB01-2.5-20171101	µg/L	0.220	U	0.570	U	0.610	U	SB01-0.0-2.0-20171101	ug/kg	8.20	U	43.7	U	34.6	U	*Storage*	*3.6*	--	*4.1*	--	*4.6*	--
GB03-64.50-65-20171102	µg/L	**57.7**		**0.860**	**J**	0.610	U	SB03-65-20171102	ug/kg	8.62	U	46.0	U	36.4	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB04-24.0-20171102	µg/L	**717**		**3.78**		0.610	U	SB04B-24.0-20171117	ug/kg	7.71	U	41.1	U	32.6	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB04-27.2-20171102	µg/L	**690**		**4.22**		0.610	U	SB04B-25.0-20171117	ug/kg	**13.2**	**J**	32.5	U	25.7	U	*Transport*	*5.6*	52.3	*5.8*	--	*5.9*	--
GBDUP-01-20171102	µg/L	**702**		**4.45**		0.610	U	SB04B-25.0-20171117	ug/kg	**13.2**	**J**	32.5	U	25.7	U	*Transport*	*5.6*	53.2	*5.8*	--	*5.9*	--
GB04-28.5-20171102	µg/L	**698**		**4.04**		0.610	U	SB04C-30.0-20171117	ug/kg	6.20	U	33.0	U	26.2	U	*Storage*	*3.6*	--	*4.1*	--	*4.6*	--
GB06-29.4-20171102	µg/L	**1.01**		0.570	U	0.610	U	SB06A-30.0-20171116	ug/kg	6.99	U	37.3	U	29.5	U	*Storage*	*3.6*	--	*4.1*	--	*4.6*	--
GB06A-26-20171116	µg/L	**0.57**	**J**	0.570	U	0.610	U	SB06A-26.0-20171116	ug/kg	8.90	U	47.5	U	37.6	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB07-64-66.9-20171103	µg/L	**45.0**		**0.760**	**J**	0.610	U	SB07-63.5-20171103	ug/kg	7.58	U	40.4	U	32	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB11-56.5-20171104	µg/L	**6040**		**65.4**		**10**		SB11-56.5-20171104	ug/kg	6.93	U	37.0	U	29.3	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB12A-53.0-20171107	µg/L	**0.46**	**J**	0.570	U	0.610	U	SB12A-51-20171107	ug/kg	6.56	U	35.0	U	27.7	U	*Storage*	*3.6*	--	*4.1*	--	*4.6*	--
GB13A-47.7-20171115	µg/L	**0.91**	**J**	0.570	U	0.610	U	SB13A-47.7-20171115	ug/kg	6.80	U	36.3	U	28.7	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB15-20-20171105	µg/L	**109000**		**15900**		**1060**	**J**	SB15A-19.5-20171129	ug/kg	**18600**	**J**	**1960**		**133**		*Storage*	*3.6*	5.9	*4.1*	8.1	*4.6*	8.0
GB15A-46.5-20171129	µg/L	**19900**		22.8	U	24.4	U	SB15A-46.4-20171129	ug/kg	**1580**		30.5	U	24.1	U	*Transport*	*5.6*	12.6	*5.8*	--	*5.9*	--
GB15A-48.0-20171129	µg/L	**1100**		**1.40**		0.610	U	SB15A-48.5-20171129	ug/kg	**714**		36.6	U	29	U	*Transport*	*5.6*	1.5	*5.8*	--	*5.9*	--
GB22-46.5-20171108	µg/L	**74.7**		**15.6**		0.610	U	SB22-44-20171108	ug/kg	7.05	U	37.6	U	29.8	U	*Storage*	*3.6*	--	*4.1*	--	*4.6*	--
GB24-27.0-20171114	µg/L	**1090**		0.570	U	0.610	U	SB24-27.7-20171114	ug/kg	**180**		33.0	U	26.2	U	*Transport*	*5.6*	6.1	*5.8*	--	*5.9*	--
GB27-5.5-20171113	µg/L	0.220	U	0.570	U	0.610	U	SB27-5.5-20171113	ug/kg	7.21	U	38.4	U	30.4	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB28-20.0-20171118	µg/L	**93800**		**2300**		**183**		SB28-19.5-20171118	ug/kg	**12300**		**211**		30.8	U	*Storage*	*3.6*	7.6	*4.1*	10.9	*4.6*	--
MW-32	µg/L	**74000**		**1580**		**72**		SB28-14.0-20171118	ug/kg	**12,200**		**290**		26	U	*Storage*	*3.6*	6.1	*4.1*	5.4	*4.6*	--
MW-32	µg/L	**74000**		**1580**		**72**		SB28-19.5-20171118	ug/kg	**12,300**		**211**		31	U	*Storage*	*3.6*	6.0	*4.1*	7.5	*4.6*	--
MW-32	µg/L	**74000**		**1580**		**72**		SB28-23.5-20171118	ug/kg	**24,400**		**151**		26	U	*Slow Advection*	*2.8*	3.0	*3.3*	10.5	*3.8*	--
MW-33	µg/L	**65**		**0.30**		0.20	U	SB28A-41.0-20180221	ug/kg	**299**		108	U	108	U	*Storage*	*3.6*	0.2	*4.1*	--	*4.6*	--
MW-33	µg/L	**65**		**0.30**		0.20	U	SB28A-46.8-20180221	ug/kg	**221**		132	U	132	U	*Storage*	*3.6*	0.3	*4.1*	--	*4.6*	--
GB29-6.0-20171114	µg/L	0.220	U	0.570	U	0.610	U	SB29-4.5-20171113	ug/kg	6.98	U	37.2	U	29.5	U	*Storage*	*3.6*	--	*4.1*	--	*4.6*	--
GB29-53.4-20171115	µg/L	0.220	U	0.570	U	0.610	U	SB29-52.7-20171114	ug/kg	6.65	U	35.5	U	28.1	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB35-52.8-20171120	µg/L	**155**		**1.32**		0.610	UJ	SB35-52.8-20171120	ug/kg	**29.6**	**J**	49.0	U	38.8	U	*Transport*	*5.6*	5.2	*5.8*	--	*5.9*	--
GB36-45.5-20171128	µg/L	**1.85**		0.570	U	0.610	U	SB36-45.5-20171128	ug/kg	7.55	U	40.3	U	31.9	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB38-20.0-20171129	µg/L	**33400**		**7720**		**211**		SB38-19.9-20171129	ug/kg	**2270**		**491**		28.5	U	*Transport*	*5.6*	14.7	*5.8*	15.7	*5.9*	--
GB40-50.5-20171130	µg/L	**3.71**		0.570	U	0.610	U	SB40-51.0-20171130	ug/kg	7.88	U	42.0	U	33.3	U	*Transport*	*5.6*	--	*5.8*	--	*5.9*	--
GB41-3.5-20171130	µg/L	0.220	U	0.570	U	0.610	U	SB41-0.1-2.0-20171130	ug/kg	8.69	U	46.3	U	36.7	U	*Slow Advection*	*2.8*	--	*3.3*	--	*3.8*	--
GB42-40.0-20171201	µg/L	**1830**		**104**		24.4	U	SB42-40.0-20171201	ug/kg	**506**		33.8	U	26.8	U	*Transport*	*5.6*	3.6	*5.8*	--	*5.9*	--

Notes:

-- Comparison not available due to non-detect soil results
*- Calculated ratios based on averages of all hydrofacies included in the groundwater sample interval
Bold values indicate detections
J - Compound detected below the laboratory quantitation limit
U - Compound was analyzed for but not detected. The associated value is the method detection limit (MDL)
µg/L - micrograms per liter
mg/kg - milligrams per kilogram
Soil and groundwater comparisons were not completed for tetrachloroethene or trans-1,2-dichloroethene, as analytical results for these constituents in co-located soil samples were non-detect.
Hydrofacies correspond to the hydrostratigraphic model and are representative of the relative hydraulic conductivity of the soil sampled. The hydrofacies consist of:

- Storage - clays and very low permabilty soils.
- Slow advection - silts and silty soils which are less conductive than transport hydrofacies, but more conductive than the storage hydrofacies.
- Transport - relatively high conductivity soils consisting of sands and gravels.

Table 14
Chemical-Specific ARARs
Toastmaster Macon Site
Macon, Missouri

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Media	Citation or Source	Law, Regulation, Standard, Requirement, Criteria, or Limitation	Requirement	ARAR/TBC Analysis
Groundwater - Federal	40 CFR Part 141	Safe Drinking Water Act, National Primary Drinking Water Regulations, Maximum Contaminant Levels (MCLs)	Specify the maximum permissible concentrations of contaminants in public drinking water supplies. Federally enforceable standards based, in part, on health effects and on the availability and cost of treatment techniques.	ARAR – Relevant and appropriate for groundwater that is or may be used for drinking water.
	40 CFR Part 141	Safe Drinking Water Act, National Primary Drinking Water Regulations, Maximum Contaminant Level Goals (MCLGs)	Specify the maximum concentration of contaminants in public drinking water supplies at which no known or anticipated adverse human health effects will occur. Non-enforceable health-based goals set equal to or lower than MCLs.	ARAR – Relevant and appropriate for groundwater that is or may be used for drinking.
	40 CFR Part 143	Safe Drinking Water Act, National Secondary Drinking Water Regulations, Secondary Maximum Contaminant Levels (SMCLs)	Provide non-enforceable standards for constituents in public drinking water supplies that affect the aesthetic qualities related to public acceptance.	TBC – Non-promulgated aesthetic guidance levels for constituents in drinking water.
	USEPA RSL May 2018	Regional Screening Levels (RSLs)	Provide non-enforceable, generic, risk-based contaminant concentrations to be used for site “screening”.	TBC – Non-promulgated risk-based guidance levels for constituents.
Groundwater - State	10 CSR 20-7.031	MDNR Water Quality Criteria (MWQC)	Provides chemical, physical, and biological properties of water that are necessary to protect beneficial water uses.	ARAR – Applicable to all state groundwater in aquifers or caves.
	10 CSR 60-4	MDNR Maximum Contaminant Levels (MMCLs)	Provide maximum contaminant levels or action levels for constituents in Missouri public water systems.	ARAR - Relevant and appropriate for groundwater that is or may be used for drinking.
	MDNR	MDNR Risk-Based Corrective Action (MRBCA)	Provide non-enforceable, conservatively-derived, risk-based target concentrations for the remediation of sites addressed under Missouri’s Voluntary Cleanup Program.	TBC – Non-promulgated Tier 1 screening levels for constituents in groundwater at sites addressed under Missouri’s Voluntary Cleanup Program.
Soil - Federal	USEPA RSL May 2018	Regional Screening Levels (RSLs)	Provide non-enforceable, generic, risk-based contaminant concentrations to be used for site “screening”.	TBC – Non-promulgated risk-based guidance levels for constituents
	USEPA RSL May 2018	Soil Screening Levels (SSLs)	Provide non-enforceable, generic screening levels for constituents in soil based on potential migration to groundwater.	TBC – Non-promulgated risk-based guidance levels for constituents
Soil - State	MDNR	MDNR Risk Based Corrective Action (MRBCA)	Provide non-enforceable, conservatively-derived, risk-based target concentrations for the remediation of sites addressed under Missouri’s Voluntary Cleanup Program.	TBC – Non-promulgated Tier 1 screening levels for constituents in soil at sites addressed under Missouri’s Voluntary Cleanup Program.

Notes:

ARAR	applicable or relevant and appropriate requirements
CFR	code of federal regulations
CSR	code of state regulations
MDNR	Missouri Department of Natural Resources
MRBCA	Missouri Risk-Based Corrective Action
TBC	to be considered
USC	United States Code
USEPA	United States Environmental Protection Agency

Table 15
Location-Specific ARARs
Toastmaster Macon Site
Macon, Missouri

Location-Specific Concern	Citation	Requirement	Prerequisite	ARAR/TBC Analysis
Wetland	Clean Water Act Section 404; 40 CFR Parts 230; 33 Parts 320-330 Executive Order 1190, Protection of Wetlands, 40 CFR Part 6, Appendix A	Action to prohibit discharge of dredged or fill material into wetlands. Action to avoid adverse effects, minimize potential harm, and enhance wetlands to the extent possible.	Wetlands as defined in U.S. Army Corps of Engineers Regulations. Action involving construction of facilities of management of property in wetlands, as defined by 40 CFR Part 6, Appendix A, Section 4(j)	No designated wetland at the Facility No designated wetland at the Facility
Wilderness Area	Wilderness Act (16 USC 1311 *et seq.); (50* CFR 35.1 *et seq.)*	Area must be administered in such a manner as will leave it unimpaired and to preserve its wilderness.	Federally owned area designated as wilderness area.	Facility not designated as a federal wilderness
Wildlife Refuge	16 USC 668dd *et seq.*, 50 CFR Part 27	Refuge Only actions allowed under the provisions of16 USC Section 668dd may be undertaken in areas that are part of the National Wildlife Refuge System.	Area designated as part of National Wildlife Refuge System.	Facility not designated as a National Wildlife Refuge
Area Affecting Stream	Fish and Wildlife Coordination Act (16 USC 662 *et seq.);* 40 CFR 6.302(e)	Stream Action to protect fish or wildlife.	Diversion, channeling, or other activity that modifies a stream or river and affects fish or wildlife.	No national wild or scenic rivers are located on site or will be impacted by site actions
Within Area Affecting Scenic or Wild River	Wild Scenic Rivers Act (16 USC 1271 *et seq.);* 40 CFR 6.302(e)	Taking or assisting in action that will have direct effect on scenic river	Activities that affect or may affect any of the rivers specified in Section 1276(a).	No national wild or scenic rivers are located on site or will be impacted by site actions
Within Floodplain	Executive Order 11988, Protection of Floodplains (40 CFR 6, Appendix A); Fish and Wildlife Coordination Act (16 USC 661 ***etseq.);*** 40 CFR 6.302	Action to avoid adverse effects, minimize potential harm, restore and preserve natural and beneficial values.	Action that will occur in a floodplain (i.e., lowlands and relatively flat areas adjoining inland and coastal waters and other flood-prone areas)	Facility is not within the floodplain
Within Area Where Action May Cause Irreparable Harm, Loss, or Destruction of Significant Artifacts	National Historical Preservation Act (16 USC Section 479); 36 CFR Part 65	Action to recover and preserve artifacts.	Alteration of terrain that threatens significant scientific, pre-historical, or archaeological data.	There are no known archaeological or historical artifacts at the Facility
Historic Project Owned of Controlled by Federal Agency	Historic Preservation Act, Section 106 (16 USC 470 ***et seq.);*** 36 CFR Part 600	Action to preserve historic properties, planning of action to minimize harm to National Historic Landmarks.	Property included in, or eligible for, the National Register of Historic Places.	Facility not on the National Register of Historic Places

Table 15
Location-Specific ARARs
Toastmaster Macon Site
Macon, Missouri

Critical Habitat Upon Which Endangered Species of Threatened Species Depend	Endangered Species Act of 1973 (16 USC 1531 ***et seq.)*** 50 CFR Part 222, 50 CFR Part 402; Fish and Wildlife Coordination Act (16 USC 661 ***et seq.);*** 33 CFR Parts 320-330	Action to conserve endangered species or threatened species including consultation with the Department of the Interior.	Determination of presence of endangered or threatened species.	No endangered species are known to exist at the Facility No evidence of unique habitat is present

Notes:

ARAR	applicable or relevant and appropriate requirements
CFR	code of federal regulations
CSR	code of state regulations
MDNR	Missouri Department of Natural Resources
TBC	to be considered
USC	United States Code
USEPA	United States Environmental Protection Agency

Table 16
Action-Specific ARARs
Toastmaster Macon Site
Macon, Missouri

Federal Regulations	Citation	Requirement	ARAR/TBC Analysis
National Ambient Air Quality Standards (NESHAP/INSPL/BACT/ PSD/LAER)	40 CFR 60.1-17, 60.50-54, 60.150-154, 60.480-489, 40 CFR 53.1-33	Establishes a limit on ambient particulate matter.	Air emission exceedances unlikely
	40 CFR 61.01-18, 61.50-112, 61.240-247 as implemented in State Implementation Plan	Sets treatment technology standards for emissions to air from incineration and fugitive emissions	Applicable emission thresholds unlikely
National Pollutant Discharge Elimination System (NPDES)	40 CFR 122.1.64	Regulates the point source discharge of water into surface water bodies	Removal Action may include discharge of treated or untreated water to the waters of the United States
Dredge and Fill Requirement	40 CFR 230.1-80	Regulates the discharge of dredged or filled material into the water of the United States.	Not applicable to the site
TSCA	40 CFR Part 761.60-79	Requirement for disposal of PCBs.	Not applicable to the site
State Standard, Requirement, Criteria or Limitation	**Citation**	**Requirement**	**ARAR/TBC Analysis**
Definition and Identification of hazardous waste	10 CSR 25-4.261	Identifies wastes subject to regulation.	Characteristic hazardous waste may be generated during the Removal Action. Hazardous waste determination requirements apply.
Subparts G, H, Closure/Post-Closure	10 CSR 25-7.264	Concerns site closure requirements, including operation and maintenance, site monitoring financial assurance record keeping, and site use.	Not applicable to the site
Subpart J – Tank Storage	10 CSR 25-7.264	Requirements apply to tank storage of hazardous materials.	Tank storage is not anticipated
Subpart K – Surface Impoundments	10 CSR 25-7.264	Requirement for hazardous waste containment using new or existing surface impoundments.	Not applicable to the site
Subpart M – Land Treatment (Reserved)	10 CSR 25-7.264	Requirements pertain to land treatment of hazardous wastes.	May be applicable for soil stabilization.
Subpart N – Landfills (New Landfills)	10 CSR 25-7.264	Requirements for design, operation and maintenance of a new hazardous waste landfill, includes minimum technology requirements under HSWA.	Not applicable to the site
Subpart S – Solid Waste Management Units	10 CSR 25-7.264	Corrective Action for Solid Waste Management Units.	Not applicable to the site

Subpart X – Miscellaneous Units	10 CSR 25-7 264	Standards for performance of miscellaneous treatment units. Miscellaneous treatment units may include shredders or desorption.	Subpart X applies to use of on-site physical treatment technologies such as ex-situ SVE and land farming cells, which may be applicable for soil stabilization.
Land Disposal Restrictions (LDRs)	10 CSR 25-7 264	The land disposal restrictions and treatment requirements for materials subject to restrictions on land disposal.	Excavation and removal is a potential removal action; therefore, LDR may be triggered for soils containing characteristically hazardous waste, if any. Substantive land disposal restrictions are applicable to the land disposal of RCRA hazardous wastes and residuals, if they are excavated and re-disposed on site. A treatability variance can be requested to allow treatment via an alternative treatment method or to a different treatment standard.
Missouri Clean Water Law (Pretreatment Standards)	10 CSR 20.6.100	Specific limits shall be developed by the control authority (as defined in subsection(10)(A)) for any temporary discharge of wastewaters resulting from the cleanup or closure of a hazardous waste site under the authority of the Missouri Hazardous Waste Management Law, the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) or the Toxic Substances Control Act (TSCA).	Removal Action may include the discharge of treated or untreated groundwater to water so the State. Substantive requirements will have to be met.
Missouri Air Quality Standards	10 CSR 10-6.010	This rule provides long-range goals for ambient air quality throughout the state of Missouri in order to protect the public health and welfare	Pertinent to emissions from SVE system Exceeding applicable emission thresholds unlikely
Missouri Air Quality Standards	10 CSR 10-6.080	This rule establishes emission standards and performance criteria for new or modified sources emitting hazardous air pollutants by adopting certain portions of 40 CFR Part 61 as of July 1994.	Applicable to soil treatment equipment (e.g., thermal desorption units, SVE system)
Missouri Air Quality Standards	10 CSR 10-6.170	This rule restricts the emission of particulate matter to the ambient air beyond the premises of origin.	Substantive requirements may be relevant and appropriate for soil excavation, mixing, and temporary soil stockpiles.
Missouri Water Pollution Control Regulations	10 CSR 20-6.010	This rule sets forth the requirements and processes of application for construction and operating permits and the terms and conditions for the permits.	Operating permits will be required if removal action has surface water discharge as a component.
Missouri Water Pollution Control Regulations	10 CSR 20-6200	This rule sets forth the requirements and process of applications for permits for storm water discharge and the term and conditions for the permits.	Substantive requirements may be applicable to storm water discharges, particularly for soil excavation and temporary soil stockpiles.

Missouri Water Pollution Control Regulations	10 CSR 20-7015	This rule sets forth the limits for various pollutants that are discharged to the various waters of the state.	Removal Action may include the discharge of treated or untreated water to waters of the State.
Missouri Hazardous Waste Permit Program	10 CSR 25-7.270	This rule incorporates the federal regulations in 40 CFR part 270 (the Hazardous Waste Permit Program) by reference and sets forth additional state requirements.	Substantive requirements may be relevant and appropriate
Missouri Environmental Covenants Act	RSMo 260.1000	This rule allows environmental covenants to be created for real property that is or has been the subject of environmental remediation. The covenants are standardized voluntary agreements in which parties with an interest in the real property ensure that restrictions on site usage required by the remediation are maintained.	Substantive requirements may be relevant and appropriate in the case of deed restriction.
Missouri Underground Injection Control	RSMo 644	This rule sets forth the requirements to operate the reagent injection wells under a Class V Permit.	Substantive requirements (e.g., identification of geologic unit, injection process, material to be injected, monitoring of groundwater) may be relevant and appropriate for injections, which are not anticipated for the Site.

Notes:
CFR = Code of Federal Regulations
CSR = Code of State Regulations
HSWA = Hazardous and Solid Waste Amendment of 1984
PCB = polychlorinated biphenyls
RSMo = Missouri Revised Statutes
SVE = soil vapor extraction

FIGURES

LEGEND

★ SITE LOCATION

0 300 600

GRAPHIC SCALE IN FEET

TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

VICINITY MAP

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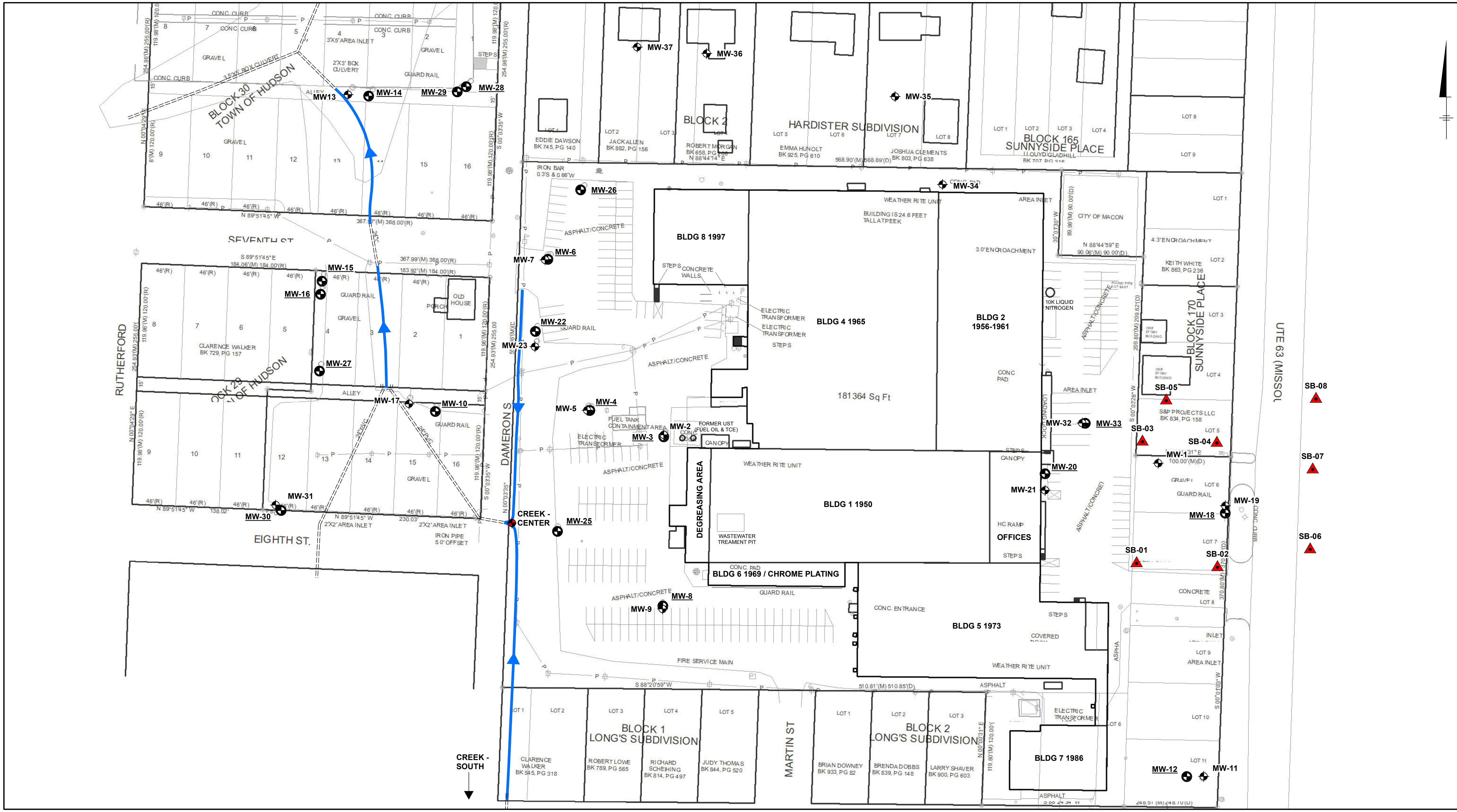
FIGURE
1

Last Saved By: ldrum
Project:Z:\GISProjects_ENV\Spectrum\Former_Toastmaster_Site\MXD\FIG 1 VICINITY MAP AERIAL 11X17.mxd 6/7/2018



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION (JULY 2011) AND TEMPORARY MONITORING WELL
- CREEK
- ====== STORM WATER PIPE

MW-3 = DEEP AQUIFER ZONE WELL

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET

0 100 200
GRAPHIC SCALE IN FEET

FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SITE PLAT

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\FIG 2 SITE PLAT.mxd 6/8/2020

NOTES

1. TOPOGRAPHIC MAP COPYRIGHT 2013 NATIONAL GEOGRAPHIC SOCIETY

0 500 1,000 2,000

SCALE IN FEET

TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SITE LOCATION

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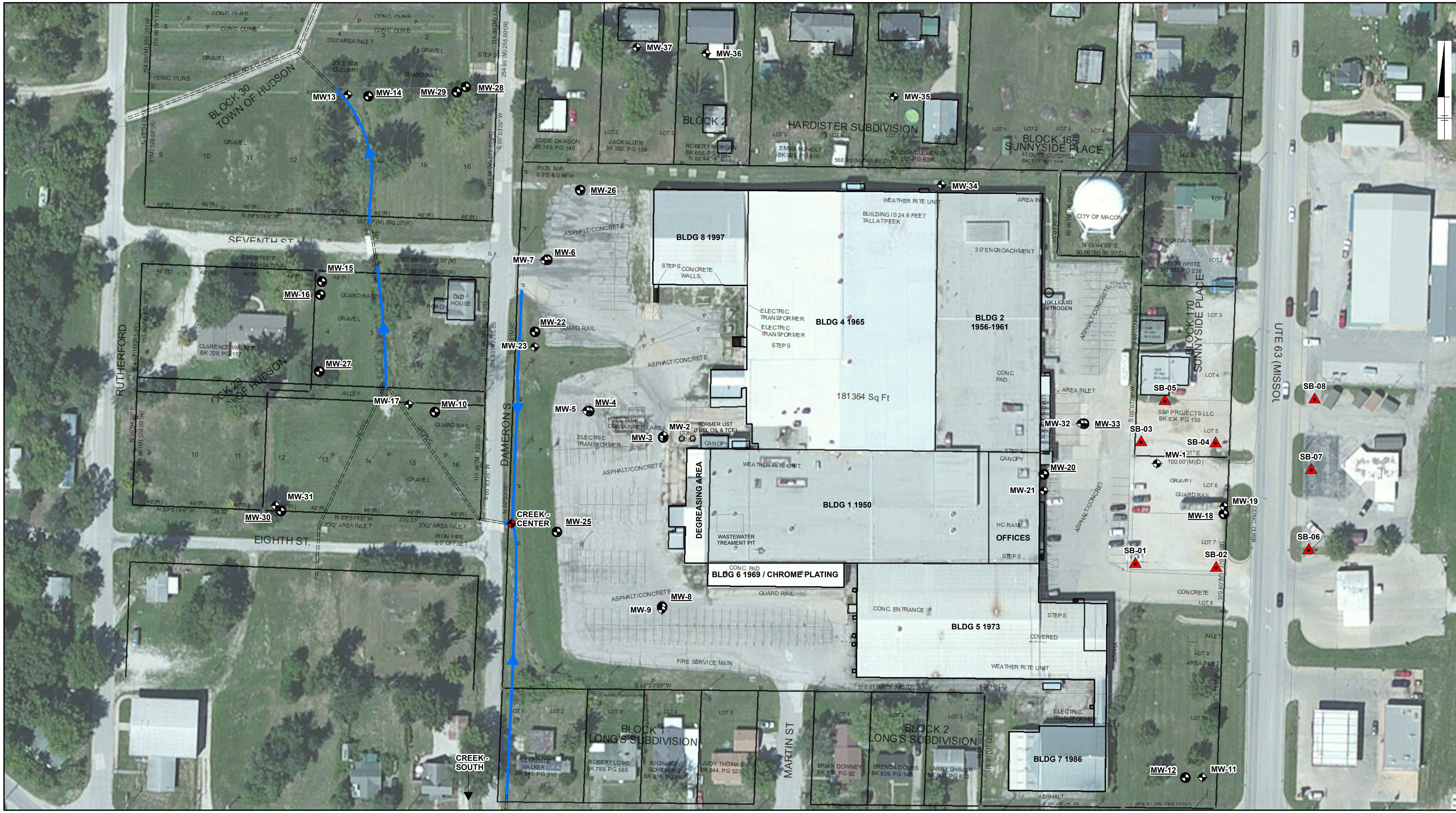
FIGURE **3**

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte FORMER TOASTMASTER SITE (OK002101.0001)
G:\APROJECT\Spectrum Brands\GIS\MXDs\FIG-3 SITE LOCATION.mxd 3/28/2017 3:37:22 PM



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION (JULY 2011) AND TEMPORARY MONITORING WELL
- CREEK
- STORM WATER PIPE

MW-3 = DEEP AQUIFER ZONE WELL

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. AERIAL DATA SOURCE: ESRI WORLD IMAGERY (CLARITY) BASEMAP.
4. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET

0 100 200

GRAPHIC SCALE IN FEET

FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SITE MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\FIG 4 SITE MAP LINE 11x17_Aerial.mxd 6/16/2020

Bldg.1 (1950) -Manufacturing equipment, TCE degreasing, tool die maintenance, paint booth, metal plating, wastewater treatment plan

Bldg. 2 (1956-1961) -Maintenance, shipping/receiving

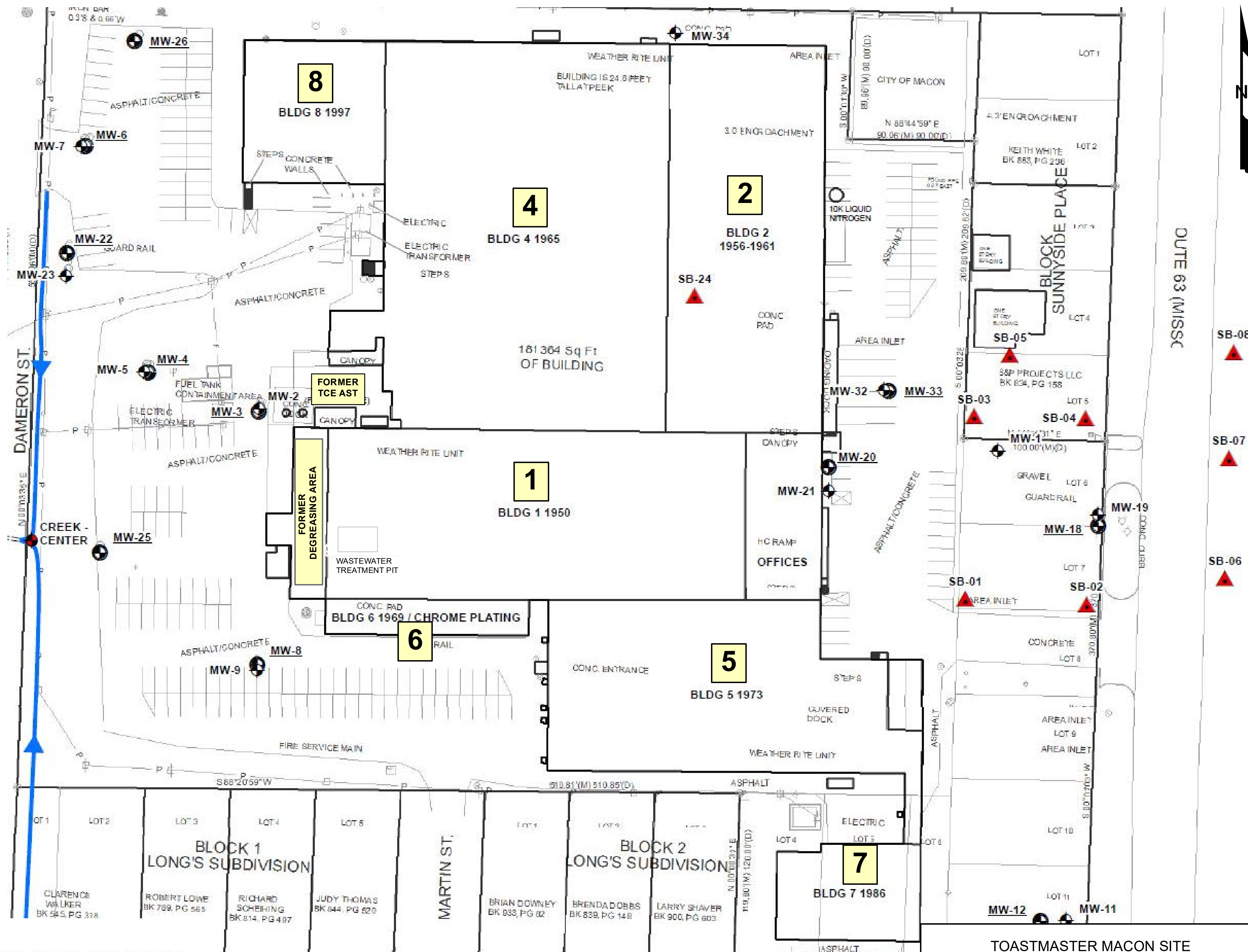
Bldg. 4 (1965) -Hydraulic press, slag machines, injection molds, paint booth, heat temper oven, oil dispensing area, compressors, generator, natural gas boilers

Bldg. 5 (1973) -Quality control, appliance sub assembly, cafeteria, additional offices

Bldg.6 (1969) -Chromium-III metal plating

Bldg. 7 (1986) -Cardboard and Styrofoam storage

Bldg. 8 (1997) -Heat tube



LEGEND

- SHALLOW AQUIFER ZONE WELL   MW-3 = DEEP AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION (JULY 2011) AND TEMPORARY MONITORING WELL
- CREEK
- STORM WATER PIPE

TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

HISTORICAL SITE ACTIVITIES

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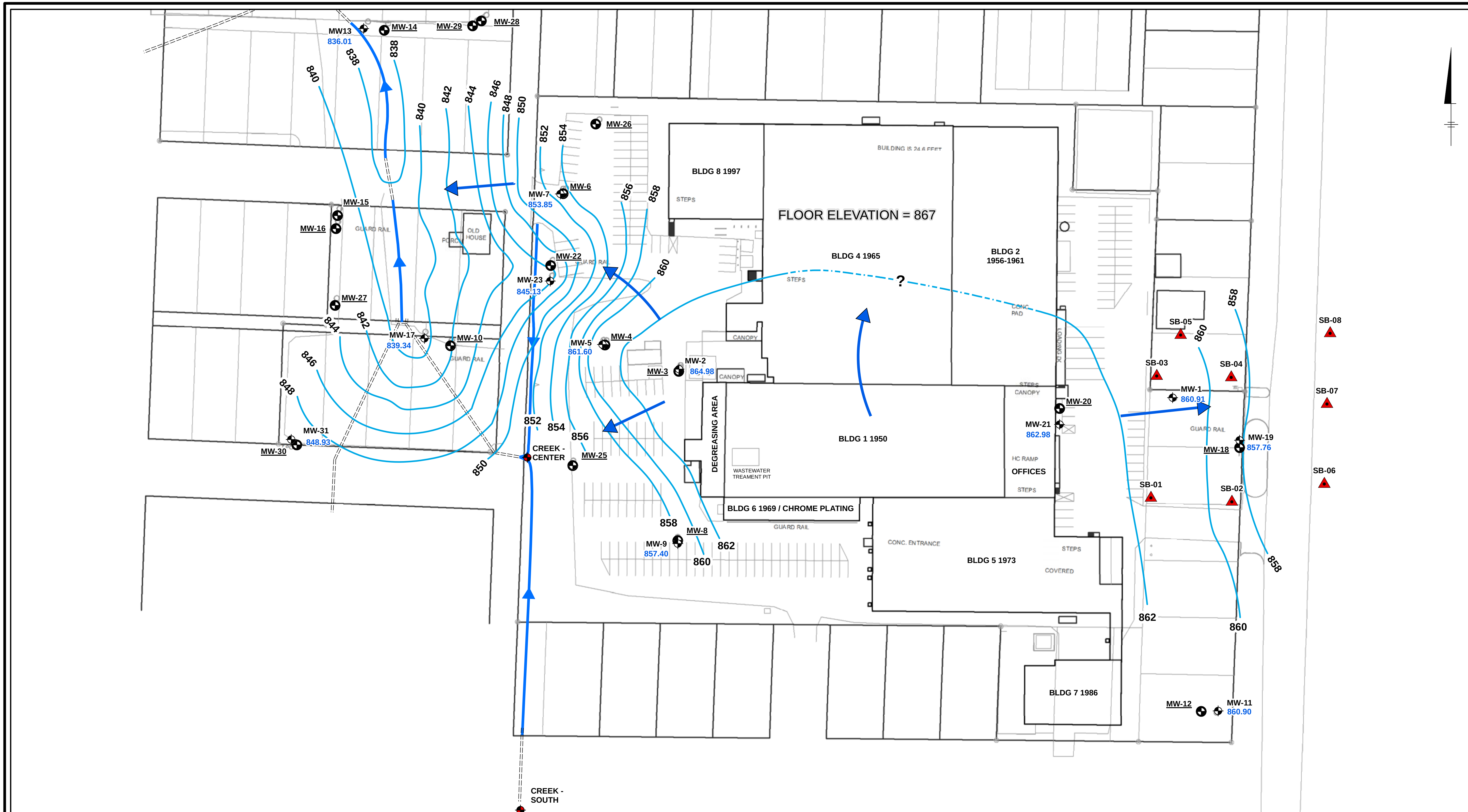
FIGURE
5

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte FORMER TOASTMASTER SITE (OK002101.0001)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 05 HISTORICAL SITE ACTIVITIES.mxd 7/6/2018 9:33:18 AM



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION
- CREEK
- ====== STORM WATER PIPE
- GROUND WATER CONTOUR (DASHED WHERE INFERRED)
- GROUND WATER FLOW DIRECTION

MW-2 = DEEP AQUIFER ZONE WELL

860.91 = GROUND WATER ELEVATION IN FEET

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET

0 100 200

GRAPHIC SCALE IN FEET

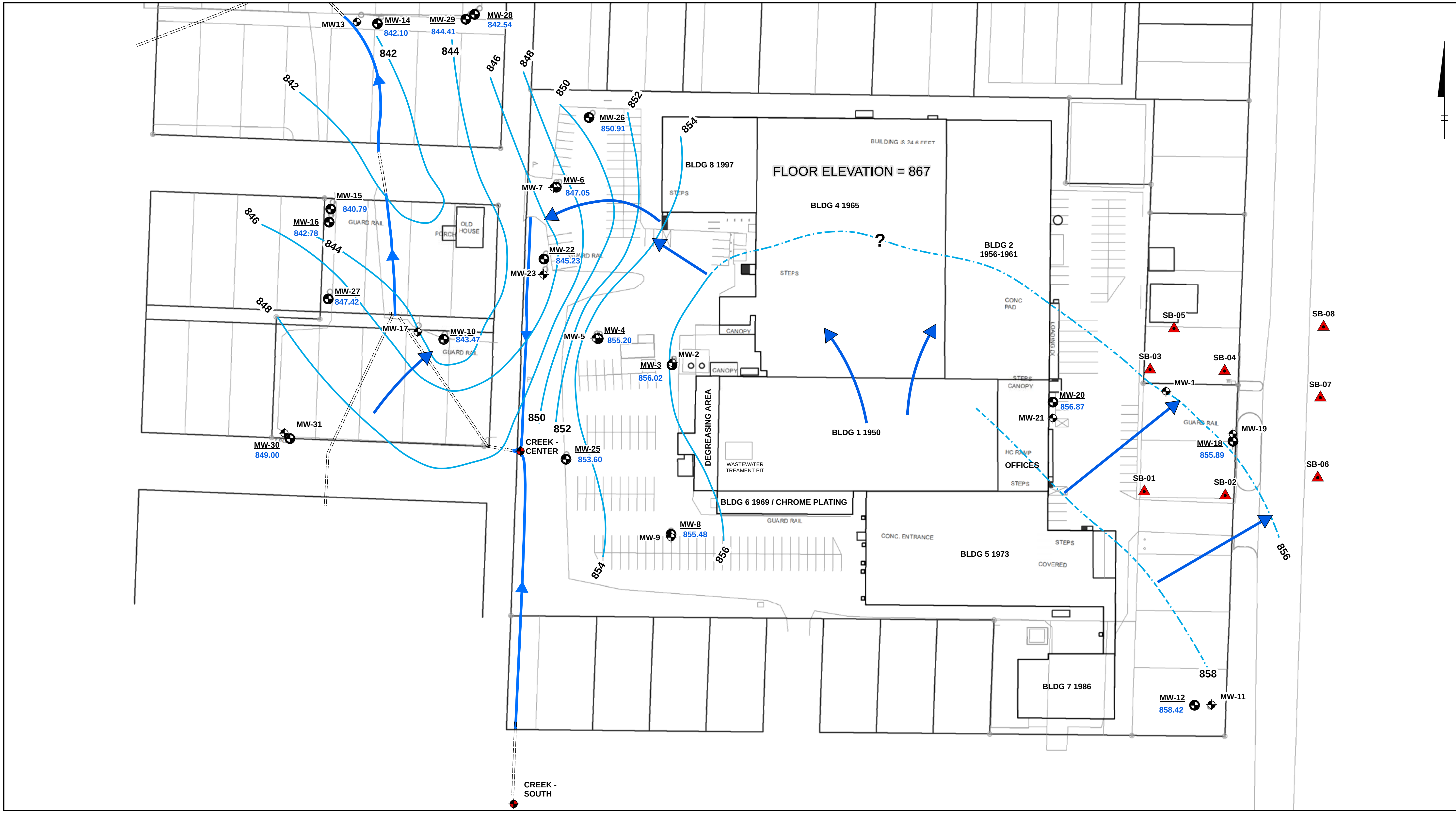
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SHALLOW GROUNDWATER ELEVATION MAP
JUNE 2011

ARCADIS Design & Consultancy for natural and built assets

FIGURE **6a**

Last Saved By: ldrum
Project:Z:\GISProjects_ENV\Spectrum\Former_Toastmaster_Site\MXD\2017\GW_MON\Fig 7 GWE_SHALLOW_JUNE2011.mxd 3/28/2017



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION
- CREEK
- ====== STORM WATER PIPE
- 842 GROUND WATER CONTOUR (DASHED WHERE INFERRED)
- GROUND WATER FLOW DIRECTION
- MW-2 = DEEP AQUIFER ZONE WELL
- 856.02 = GROUND WATER ELEVATION IN FEET

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET

0 100 200
GRAPHIC SCALE IN FEET

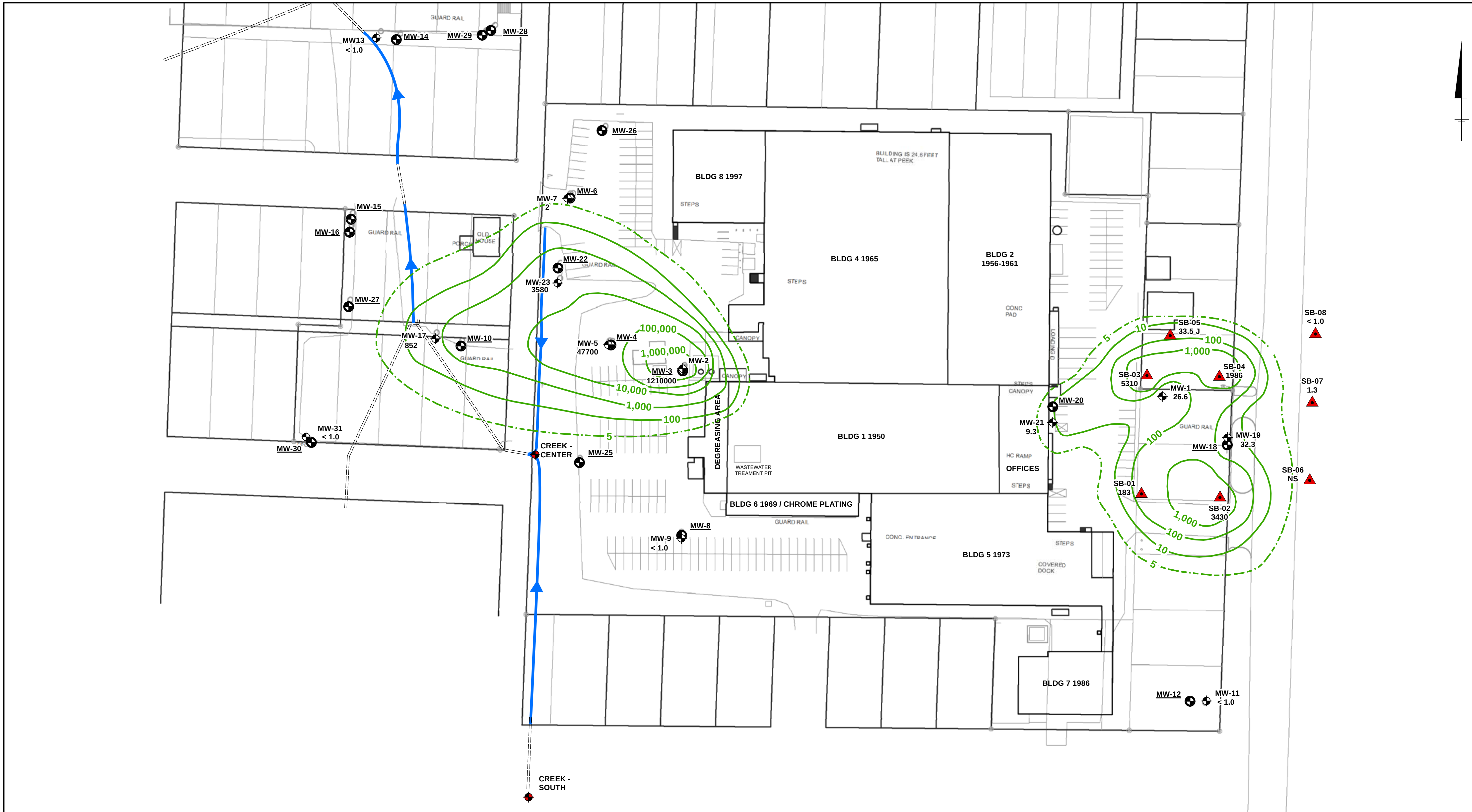
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

DEEP GROUNDWATER ELEVATION MAP
JUNE 2011

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6b

Last Saved By: ldrum
Project:Z:\GISProjects_ENV\Spectrum\Former_Toastmaster_Site\MXD\2017\GW_MON\Fig 8 GWE_DEEP_JUNE2011.mxd 3/28/2017



LEGEND

- SHALLOW AQUIFER ZONE
- DEEP AQUIFER ZONE
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION
- CREEK
- ====== STORM WATER PIPE
- — 100 — TRICHLOROETHENE ISOCONCENTRATION CONTOUR
- - - 5 - - TRICHLOROETHENE COMPLIANCE CONTOUR BASED ON MRBCA LDTL FOR TRICHLOROETHENE
- MW-2 = DEEP AQUIFER ZONE WELL
- **35.1** = TRICHLOROETHENE CONCENTRATION (µg/L)
- NS = NOT SAMPLED

NOTES:
1. WELL LOCATION SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. WELL ANALYTICAL DATA SOURCE: ENVIRONMENTAL RESOURCES MANAGEMENT (ERM).

0 100 200
GRAPHIC SCALE IN FEET

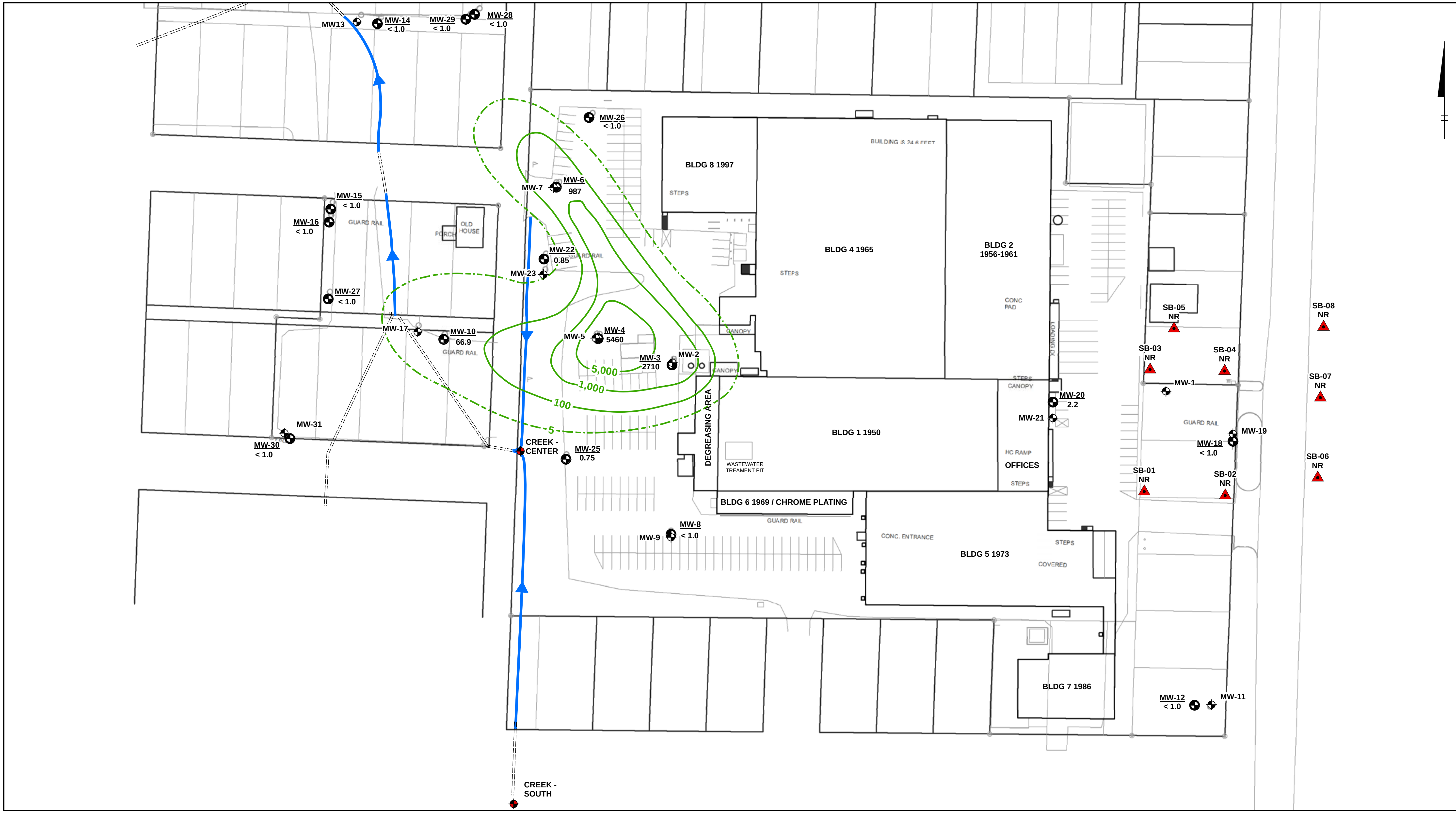
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

TRICHLOROETHENE GROUNDWATER ISOCONCENTRATION CONTOURS (SHALLOW) - JUNE 2011

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7a

Last Saved By: ldrum
Project:Z:\GISProjects_ENV\Spectrum\Former_Toastmaster_Site\MXD\2017\GW_MON\Fig 9 GW_TCE_SHALLOW_JUNE2011.mxd 3/28/2017



LEGEND

- SHALLOW AQUIFER ZONE
- DEEP AQUIFER ZONE
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION
- CREEK
- STORM WATER PIPE
- 100 — TRICHLOROETHENE ISOCONCENTRATION CONTOUR
- 5 — TRICHLOROETHENE COMPLIANCE CONTOUR BASED ON MRBCA LDTL FOR TRICHLOROETHENE

MW-2 = DEEP AQUIFER ZONE WELL

43.1 = TRICHLOROETHENE CONCENTRATION (µg/L)

NR = NOT REACHED

NOTES:
1. WELL LOCATION SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. WELL ANALYTICAL DATA SOURCE: ENVIRONMENTAL RESOURCES MANAGEMENT (ERM).

0 100 200

GRAPHIC SCALE IN FEET

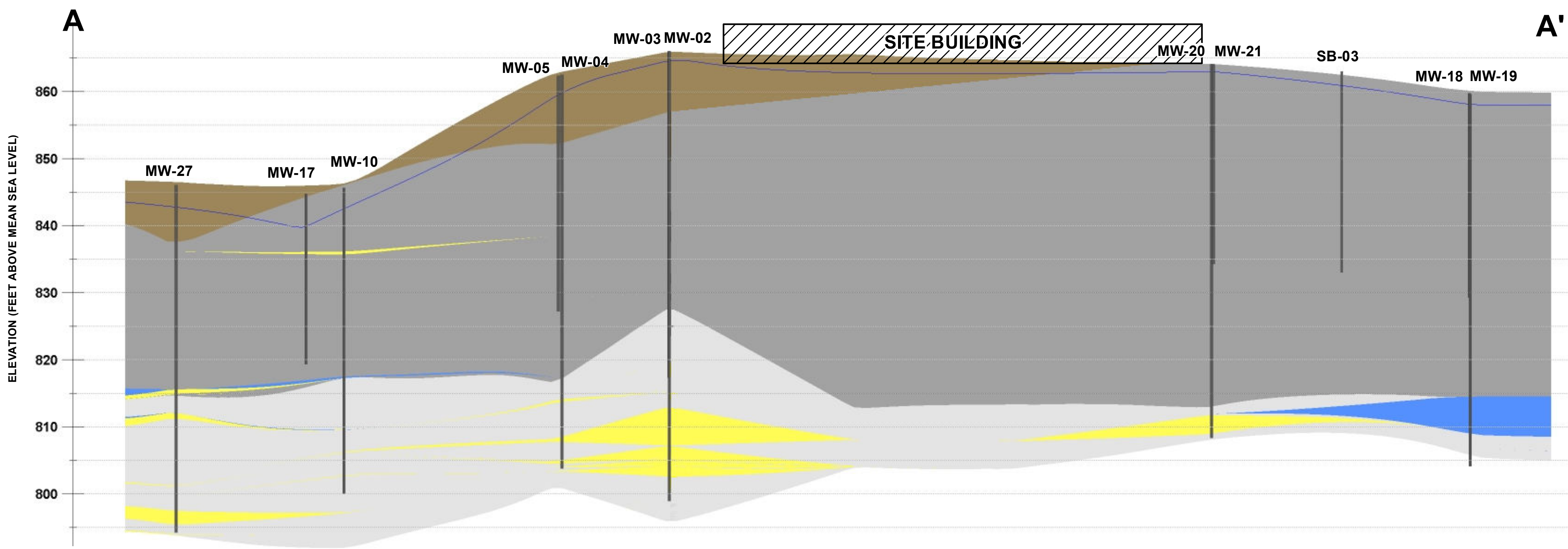
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

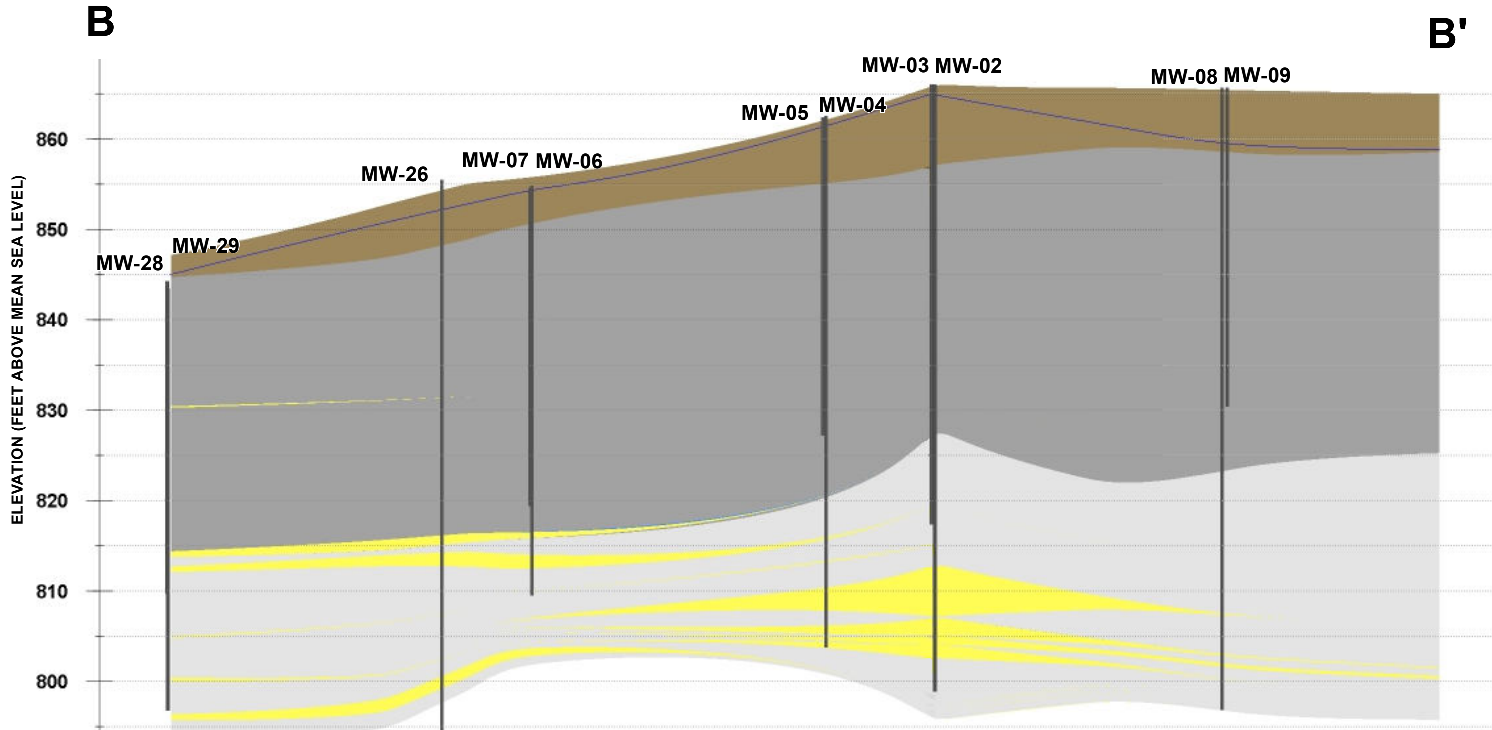
TRICHLOROETHENE GROUNDWATER ISOCONCENTRATION CONTOURS (DEEP) - JUNE 2011

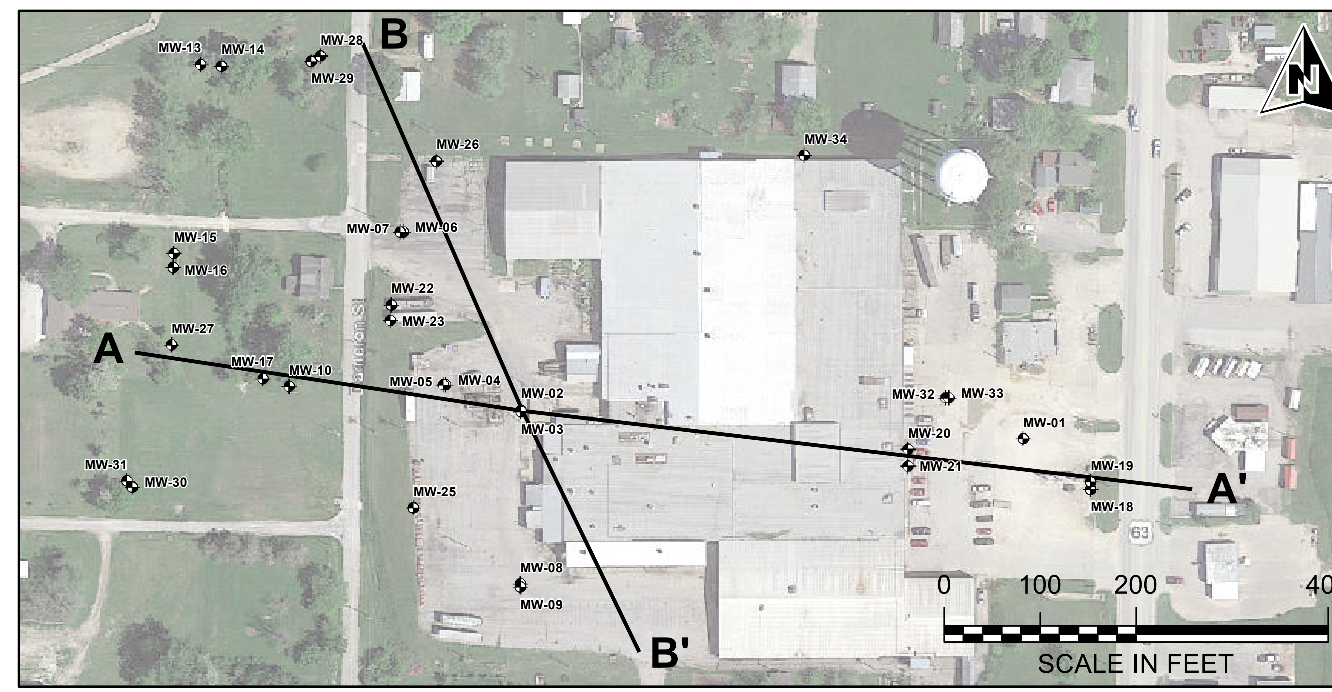
ARCADIS Design & Consultancy for natural and built assets

FIGURE **7b**

Last Saved By: ldrum
Project:Z:\GISProjects_ENV\Spectrum\Former_Toastmaster_Site\MXD\2017\GW_MON\Fig 10 GW_TCE_DEEP_JUNE2011.mxd 3/28/2017







STRATIGRAPHY

- **DISTURBED FILL MATERIAL**
- **UPPER TILL** - PREDOMINANTLY CLAY WITH LITTLE FINE TO COARSE-GRAINED SAND AND TRACE SILT
- **LOWER TILL** - PREDOMINANTLY CLAY WITH SOME THIN DISCONTINUOUS LENSES OF FINE TO COARSE GRAINED SAND
- **SAND** - FINE TO COARSE GRAINED SAND
- **CLAYEY SAND** - CLAY-RICH FINE TO COARSE GRAINED SAND

NOTES

1. VERTICAL EXAGGERATION - 5x FOR BOTH CROSS SECTIONS
2. FILL MATERIAL OBSERVED AT MW-27 IS NOT DISTURBED FILL BUT RATHER AN ORGANIC BLACK CLAY.

TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

GEOLOGIC CROSS SECTIONS

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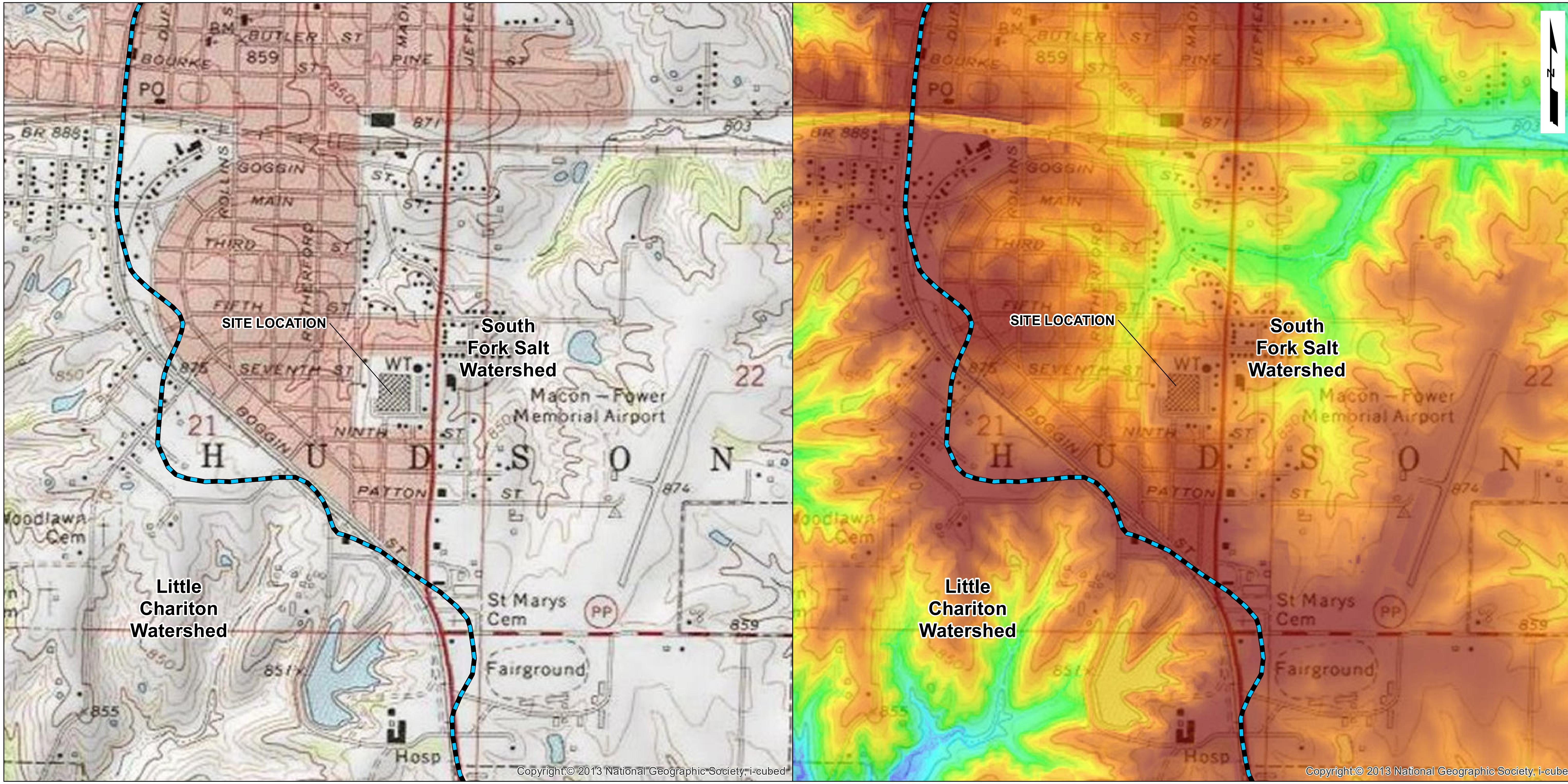
FIGURE
8

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte FORMER TOASTMASTER SITE (OK002101.0001)
G:\APROJECT\Spectrum Brands\GIS\MXD\EECA REPORT FIGS\FIG 08 GEOLOGIC CROSS SECTIONS.mxd 7/10/2018 10:03:19 AM



LEGEND

DIGITAL ELEVATION MAP OVERLAY

- HIGH: 890.2 FT MSL
- MID: 806.8 FT MSL
- LOW: 723.3 FT MSL

WATERSHED BOUNDARY

0 500 1,000 2,000

SCALE IN FEET

NOTES

1. TOPOGRAPHIC MAP COPYRIGHT 2013 NATIONAL GEOGRAPHIC SOCIETY

2. DIGITAL ELEVATION MAP (DEM) DOWNLOADED FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE ONLINE GEOSPATIAL DATA GATEWAY:

https://datagateway.nrcs.usda.gov

3. COMPARISON POINTS ARE APPROXIMATELY PLACED TOPOGRAPHIC CONTOUR LINES.

4. FT MSL - FEET ABOVE MEAN SEA LEVEL

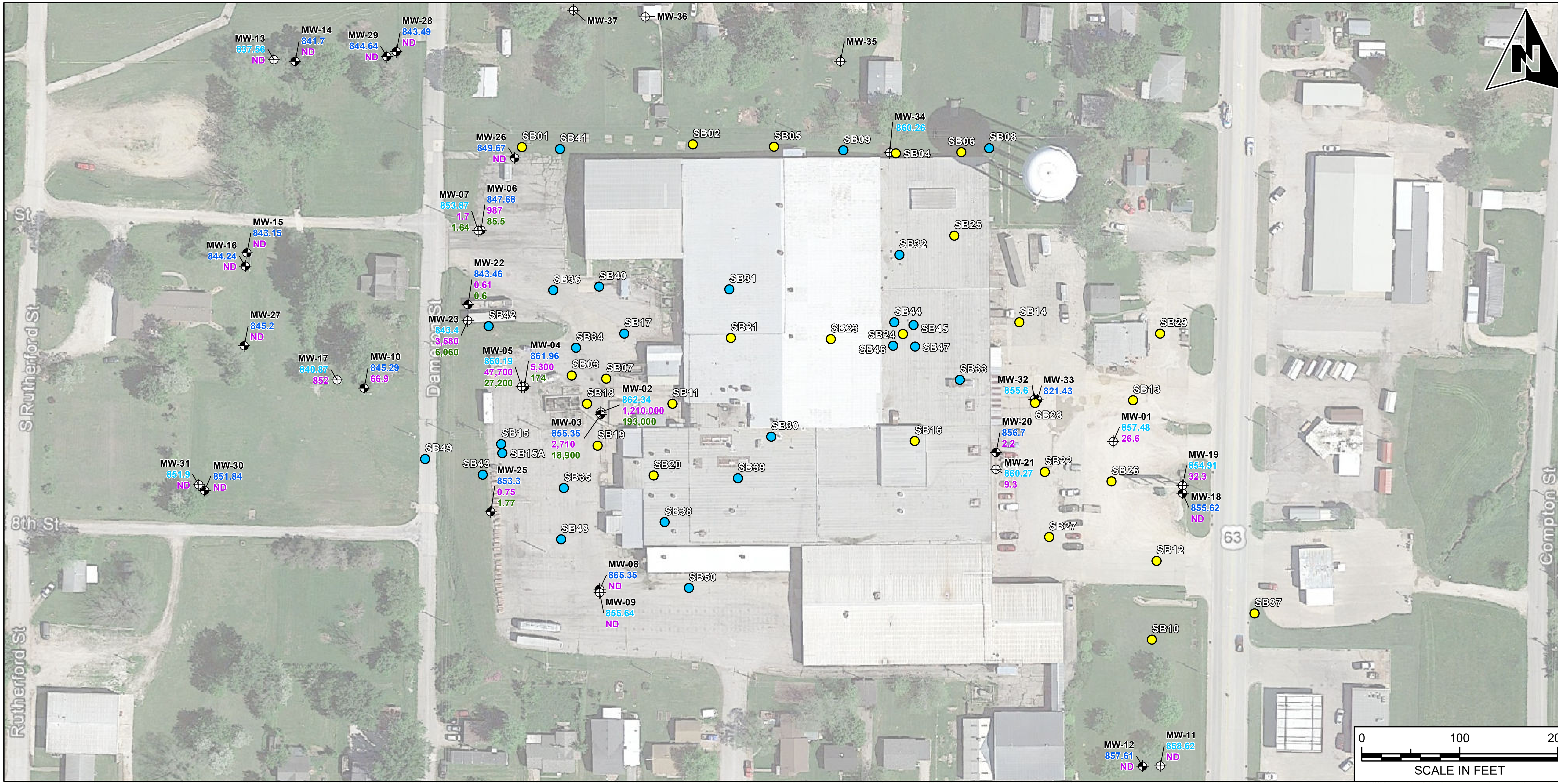
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

REGIONAL DRAINAGE

ARCADIS Design & Consultancy for natural and built assets

FIGURE 9

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte FORMER TOASTMASTER SITE (OK002101.0001)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 09 REGIONAL DRAINAGE.mxd 6/8/2018 1:47:42 PM



LEGEND

- PRIMARY DIRECT-PUSH SOIL BORING (26)
- SECONDARY DIRECT-PUSH SOIL BORING (25)
- SHALLOW AQUIFER WELL
- DEEP AQUIFER WELL

840.10 - FEBRUARY 2018 SHALLOW GROUNDWATER ELEVATION
856.00 - FEBRUARY 2018 DEEP GROUNDWATER ELEVATION
9.3 - JUNE 2011 LOW-FLOW SAMPLE TCE RESULT (µg/L)
0.6 - DECEMBER 2017 GRAB SAMPLE TCE RESULT (µg/L)

NOTES

1) TCE - TRICHLOROETHENE

2) DIRECT-PUSH SOIL BORINGS SB01 THROUGH SB43 ADVANCED IN OCTOBER/NOVEMBER 2017 AND SB44 THROUGH SB50 ADVANCED IN FEBRUARY 2018.

3) MONITORING WELLS MW-32, MW-33, AND MW-34 INSTALLED IN FEBRUARY 2018. MONITORING WELLS MW-35, MW-36, AND MW-37 INSTALLED IN JULY 2019.

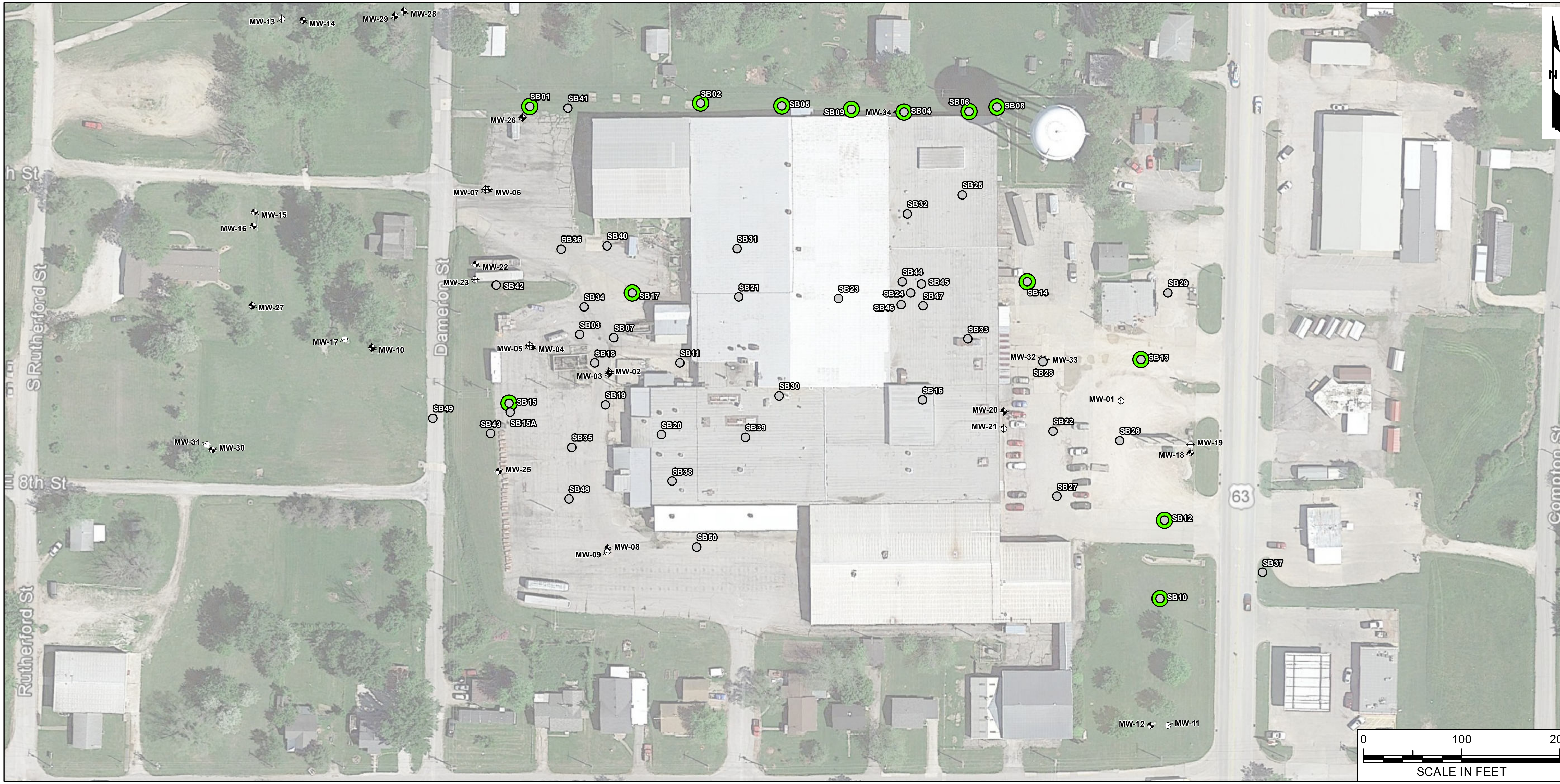
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

2017-2019 EE/CA FIELD INVESTIGATION LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
10

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (30050569)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG-10 2017-2019 EECA FIELD INV LOCS.mxd 6/8/2020 12:02:14 PM



LEGEND

- DPT LOCATIONS (51)
- SHALLOW AQUIFER WELL
- DEEP AQUIFER WELL
- WATERLOO DPT LOCATION (13)

NOTES

1) DPT - DIRECT-PUSH TECHNOLOGY

2) DIRECT-PUSH SOIL BORINGS SB01 THROUGH SB43 ADVANCED IN OCTOBER/NOVEMBER 2017 AND SB44 THROUGH SB50 ADVANCED IN FEBRUARY 2018.

3) MONITORING WELLS MW-32, MW-33, AND MW-34 INSTALLED IN FEBRUARY 2018.

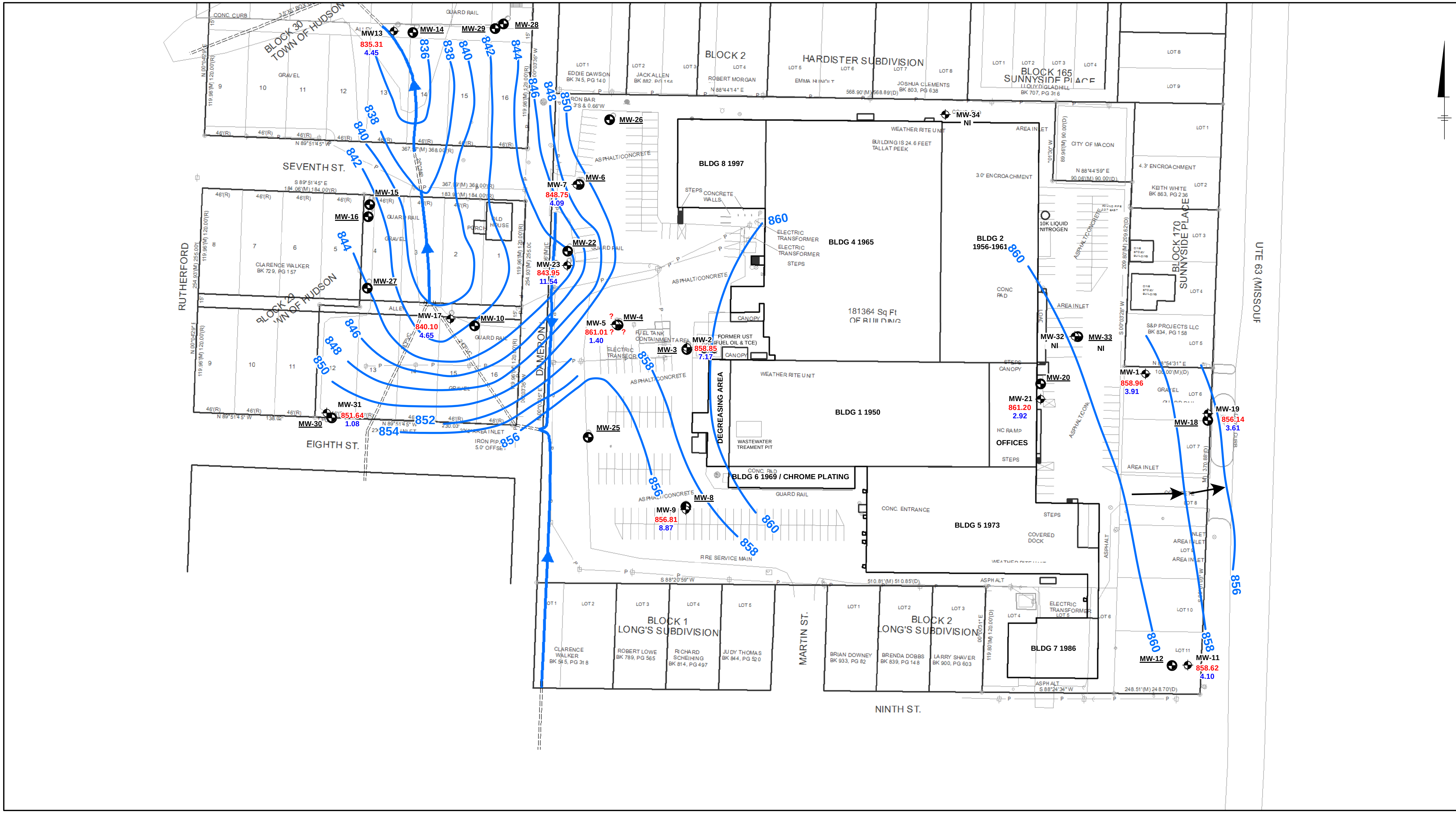
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

WATERLOO^APS TM SYSTEM DIRECT-PUSH LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
11

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte FORMER TOASTMASTER SITE (OK002101.0001)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG-12 WATERLOO DPT LOCS.mxd 5/9/2018 9:50:09 AM



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- FLOW DIRECTION
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
860.26 - GROUNDWATER ELEVATION (AMSL)
6.83 - DTW BGS
NI = NOT INSTALLED

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET

0 100 200
GRAPHIC SCALE IN FEET

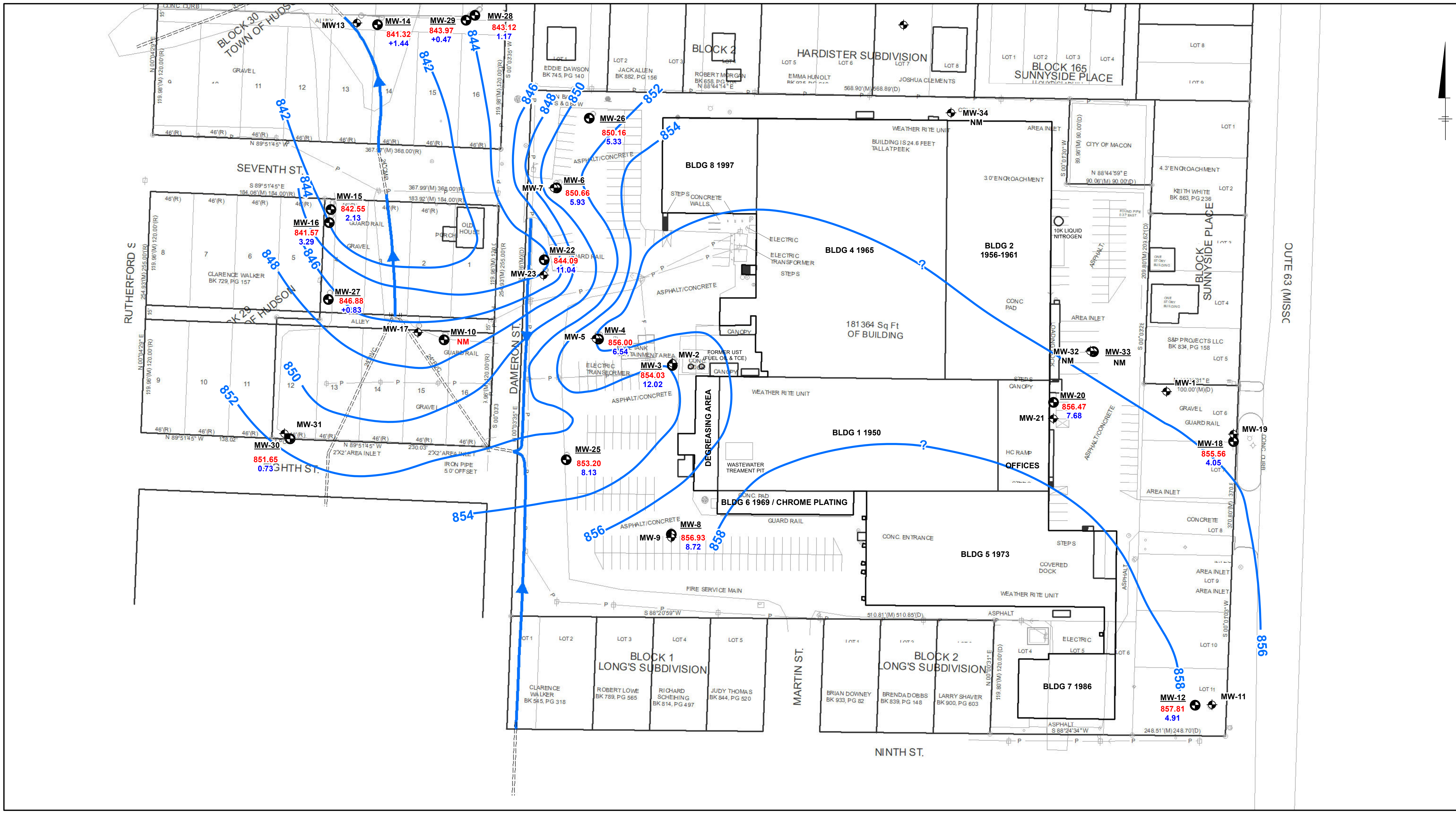
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SHALLOW GROUNDWATER ELEVATIONS
OCTOBER 31, 2017

ARCADIS Design & Consultancy for natural and built assets

FIGURE
12a

Last Saved By: ldrum
Project:Z:\GISProjects_ENV\Spectrum\Former_Toastmaster_Site\MXD\2018\GWMON\GWMON_SHALLOW_Oct2017.mxd 5/30/2018



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
845.20 - GROUNDWATER ELEVATION (AMSL)
0.85 - DTW BGS
NM = NOT MEASURED

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. MW-32 AND MW-34 WERE MEASURED ON FEBRUARY 23, 2018. ALL OTHER WELLS MEASURED ON FEBRUARY 20, 2018.

0 100 200
GRAPHIC SCALE IN FEET

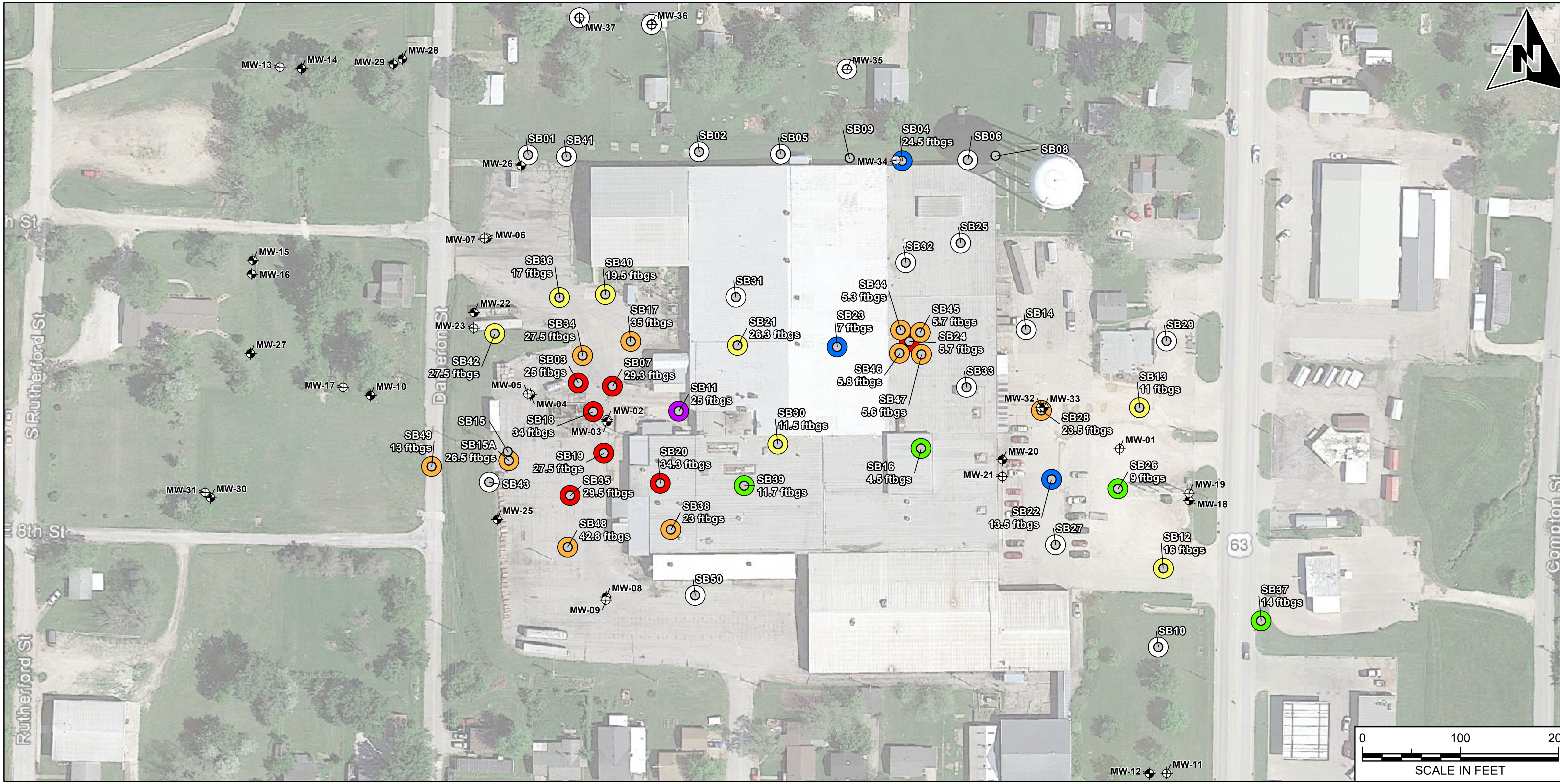
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

DEEP GROUNDWATER ELEVATIONS OCTOBER 31, 2017

ARCADIS Design & Consultancy for natural and built assets

FIGURE 12b

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\FIG 12b GWMON_DEEP_OCT2017.mxd 6/8/2020



LEGEND

- SHALLOW AQUIFER WELL
- DEEP AQUIFER WELL
- DIRECT-PUSH LOCATION (54)

MAXIMUM TCE DETECTIONS IN SOIL (µg/kg)

NON-DETECT, MDL - 100, >100 - 1,000, >1,000 - 10,000, >10,000 - 100,000, >100,000 - 1,000,000, >1,000,000

NOTES

1) TCE - TRICHLOROETHENE

2) µg/kg - MICROGRAMS PER KILOGRAM

3) ALL PRESENTED SOIL SAMPLING RESULTS WERE COLLECTED FROM THE SATURATED ZONE.

4) DIRECT-PUSH SOIL BORINGS SB01 THROUGH SB43 ADVANCED IN OCTOBER/NOVEMBER 2017, SB44 THROUGH SB50 ADVANCED IN FEBRUARY 2018, AND MW-35 THROUGH MW-37 ADVANCED IN JULY 2019.

5) LOCATION SB43 WAS ONLY ADVANCED TO 6 FEET BELOW GROUND SURFACE DUE TO UNCERTAINTY OF PROXIMITY TO NEARBY SUBSURFACE UTILITY.

6) MONITORING WELLS MW-32, MW-33, AND MW-34 INSTALLED IN FEBRUARY 2018. MONITORING WELLS MW-35, MW-36, AND MW-37 INSTALLED IN JULY 2019.

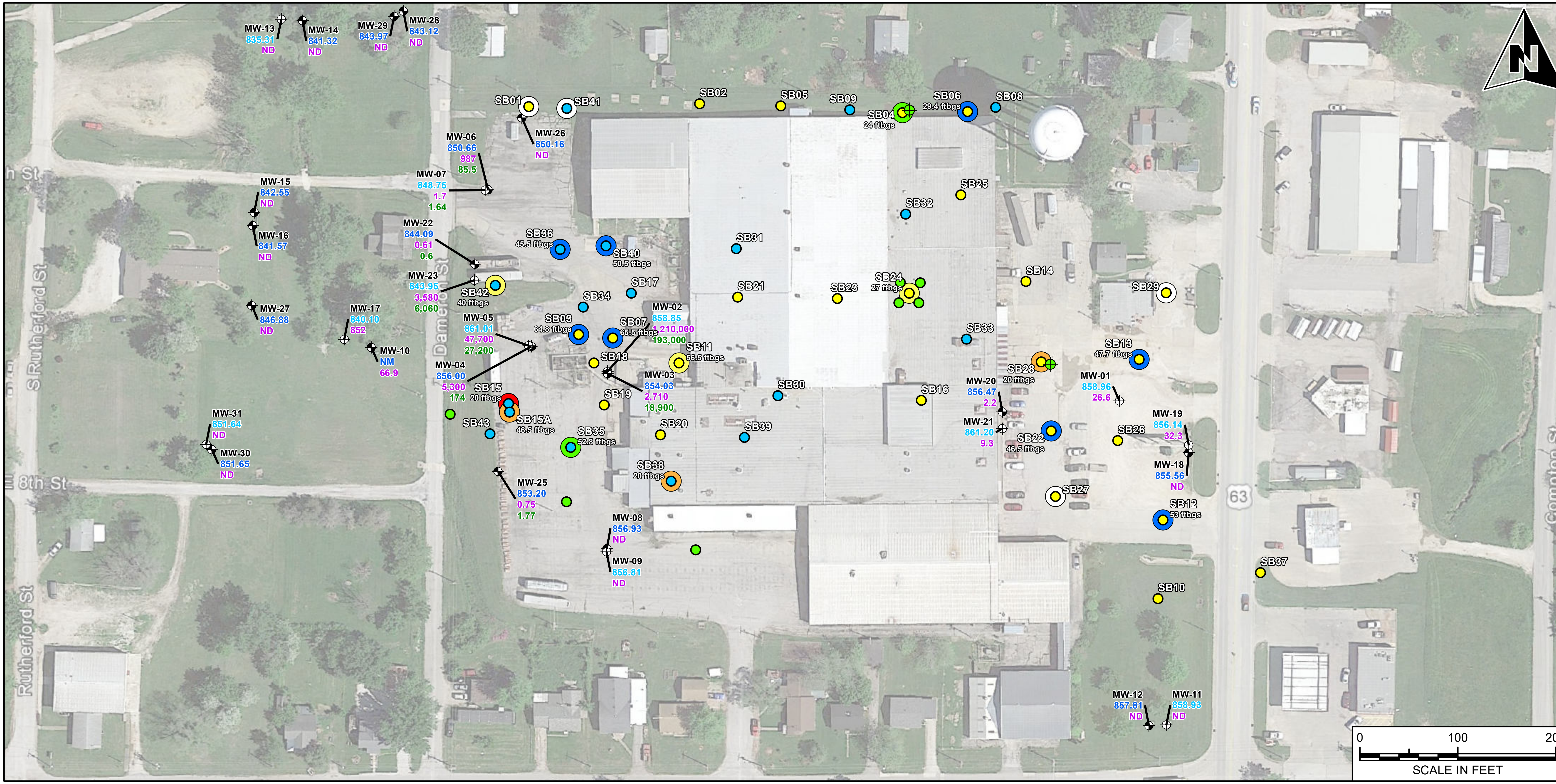
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

2017-2019 EE/CA FIELD INVESTIGATION LOCATIONS TCE IN SOIL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE **13**

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (30050569)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 13 MAX TCE SOIL DETECTS.mxd 6/8/2020 12:23:42 PM



LEGEND

- SHALLOW AQUIFER WELL
- DEEP AQUIFER WELL
  - 840.10 - SHALLOW GROUNDWATER ELEVATION
  - 856.00 - DEEP GROUNDWATER ELEVATION
  - 9.3 - JUNE 2011 LOW-FLOW SAMPLE TCE RESULT (MICROGRAMS PER LITER)
  - 0.6 - DECEMBER 2017 GRAB SAMPLE TCE RESULT (MICROGRAMS PER LITER)
- PRIMARY DIRECT-PUSH SOIL BORING (26)
- SECONDARY DIRECT-PUSH SOIL BORING (18)
- PROPOSED DIRECT-PUSH SOIL BORING (7)
- PROPOSED MONITORING WELL (2)

MAXIMUM TCE DETECTIONS IN GRAB GROUNDWATER (µg/L)

NON-DETECT | MDL - 100 | >100 - 1,000 | >1,000 - 10,000 | >10,000 - 100,000 | >100,000

NOTES

1) ftbgs - FEET BELOW GROUND SURFACE
MDL - METHOD DETECTION LIMIT
TCE - TRICHLOROETHENE
µg/L - MICROGRAMS PER LITER

2) DEPTHS OF MAXIMUM OBSERVED TCE IMPACTS ARE PRESENTED WITH EACH BORING.

3) ANALYTICAL SOIL WAS NOT COLLECTED AT DEPTH FROM LOCATION SB15. SB43 WAS NOT ADVANCED BEYOND 6 FTBGS DUE TO UNCERTAINTY WITH THE LOCATION OF A NEARBY SUBSURFACE UTILITY LINE.

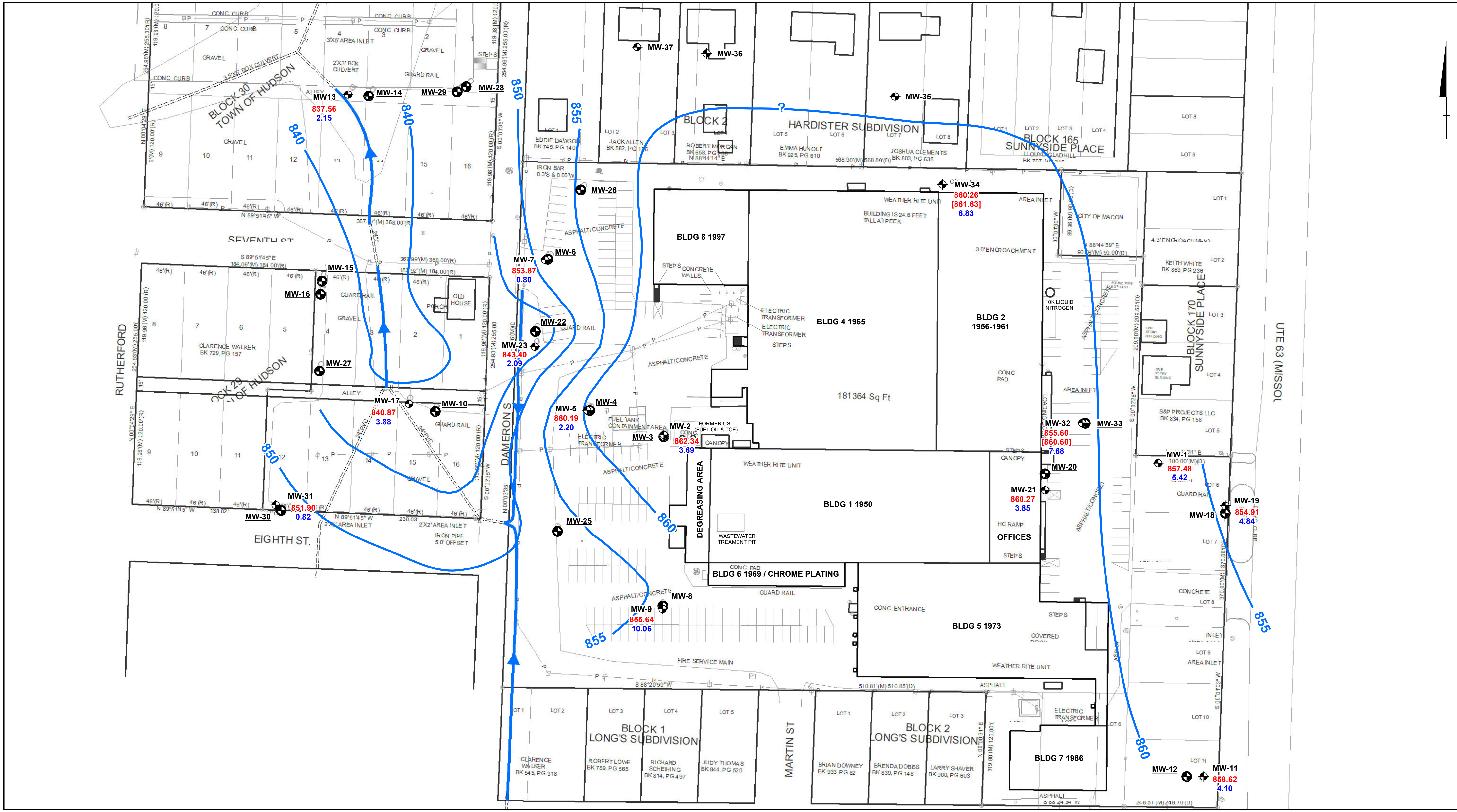
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

2017 EE/CA FIELD INVESTIGATION MAXIMUM TCE CONCENTRATIONS IN GRAB GROUNDWATER

ARCADIS Design & Consultancy for natural and built assets

FIGURE **14**

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte FORMER TOASTMASTER SITE (OK002101.0001)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA Field Inv\FIG-X EECA FIELD INVESTIGATION FINDINGS.mxd 2/7/2018 12:51:05 PM



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
860.26 - GROUNDWATER ELEVATION (AMSL)
[861.63] - GROUNDWATER ELEVATION (AMSL) - MEASURED ON 02/27/2018
6.83 - DTW BGS

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. MW-32 AND MW-34 WERE MEASURED ON FEBRUARY 23, 2018. ALL OTHER WELLS MEASURED ON FEBRUARY 20, 2018.

0 100 200
GRAPHIC SCALE IN FEET

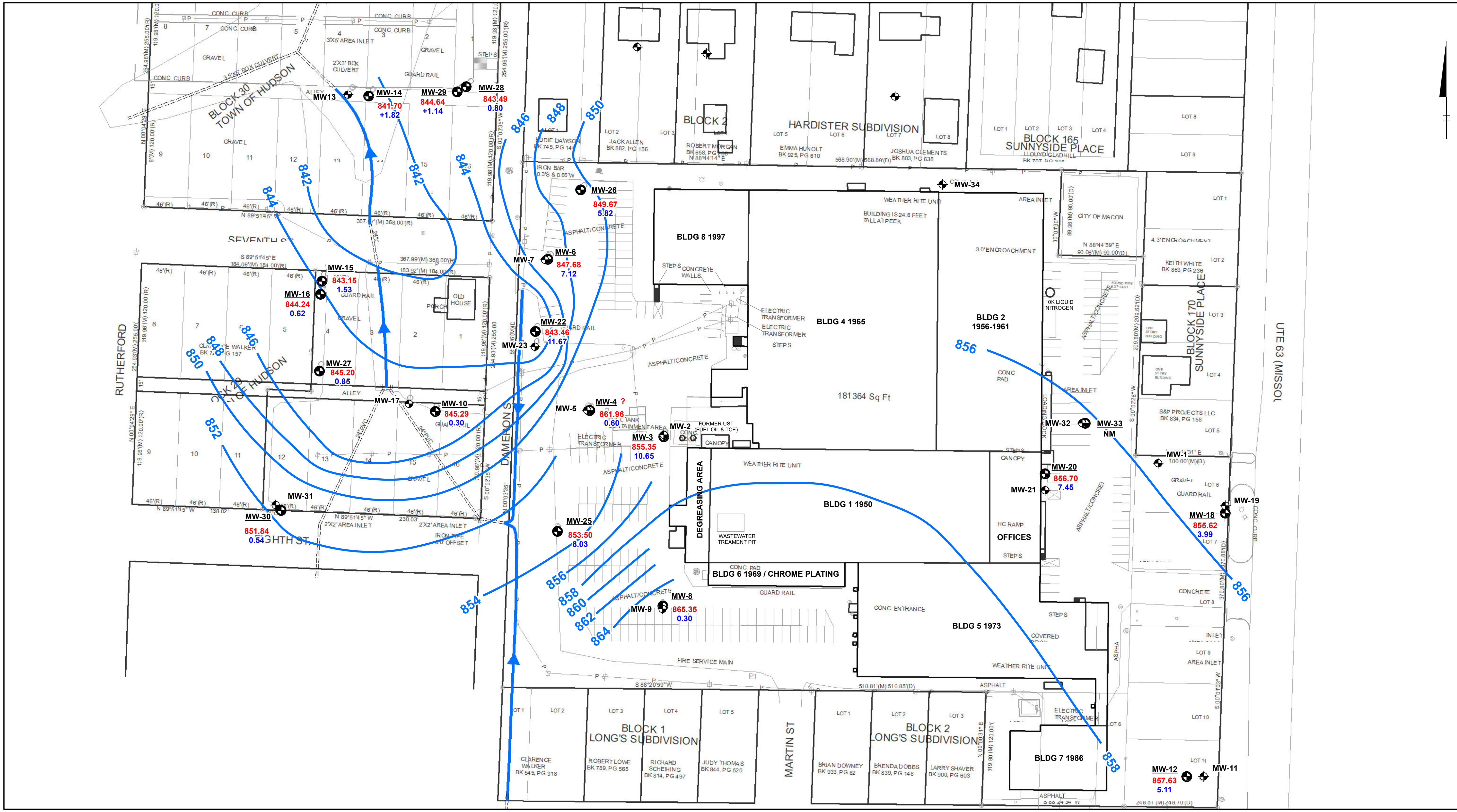
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SHALLOW GROUNDWATER ELEVATIONS FEBRUARY 20 / 23, 2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE 15a

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\Fig 15a GWMON_SHALLOW_FEB2018.mxd 6/8/2020



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
845.20 - GROUNDWATER ELEVATION (AMSL)
0.85 - DTW BGS
NM = NOT MEASURED

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. MW-32 AND MW-34 WERE MEASURED ON FEBRUARY 23, 2018. ALL OTHER WELLS MEASURED ON FEBRUARY 20, 2018.

0 100 200
GRAPHIC SCALE IN FEET

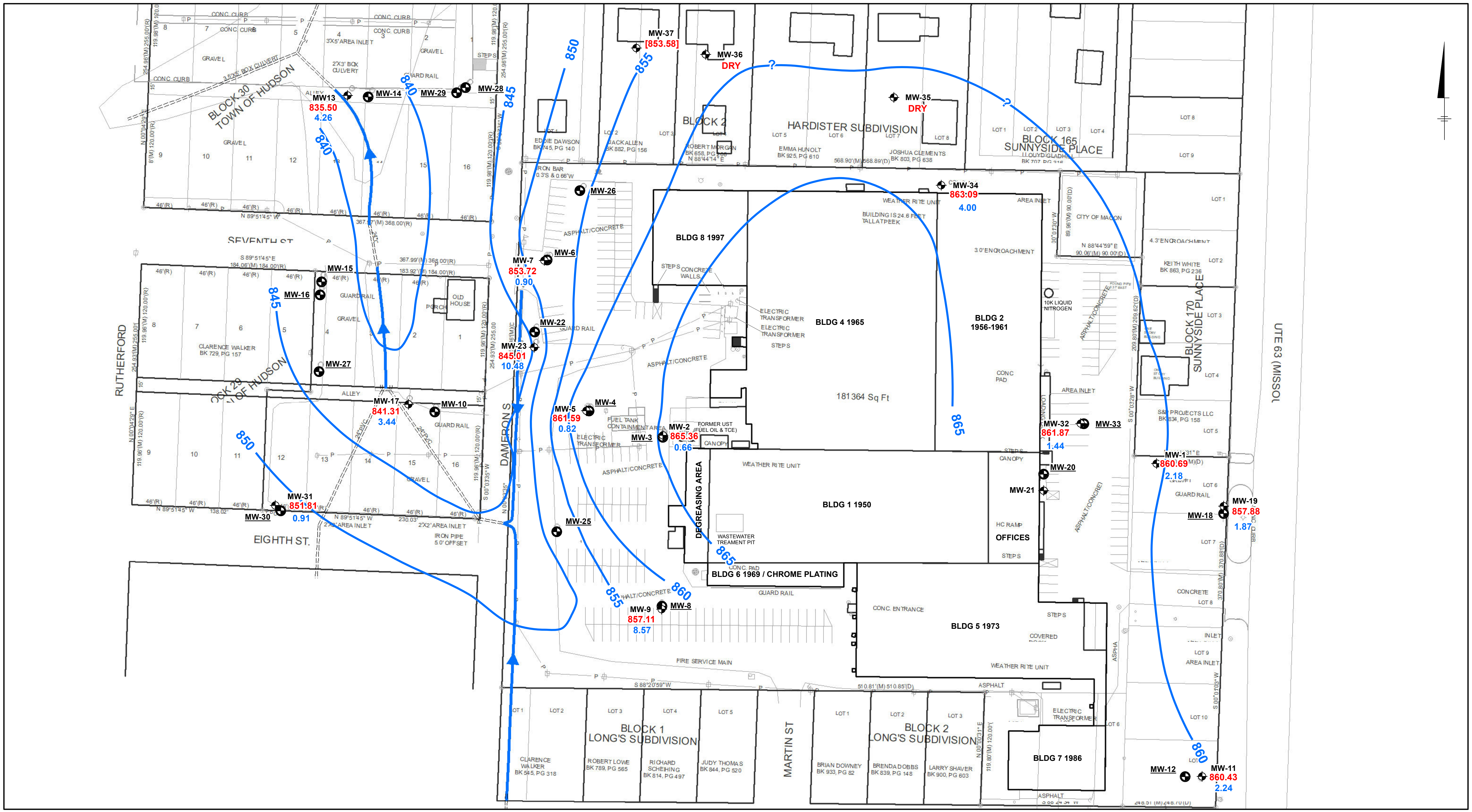
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

DEEP GROUNDWATER ELEVATIONS
FEBRUARY 20, 2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE
15aa

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\Fig 15aa GWMON_DEEP_FEB2018.mxd 6/8/2020



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
835.50 - GROUNDWATER ELEVATION (AMSL)
[853.38] - GROUNDWATER ELEVATION (AMSL) SAMPLED JULY 24, 2019
4.26 - DTW BGS

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. MW-32 AND MW-34 WERE MEASURED ON FEBRUARY 23, 2018. ALL OTHER WELLS MEASURED ON FEBRUARY 20, 2018.

0 100 200
GRAPHIC SCALE IN FEET

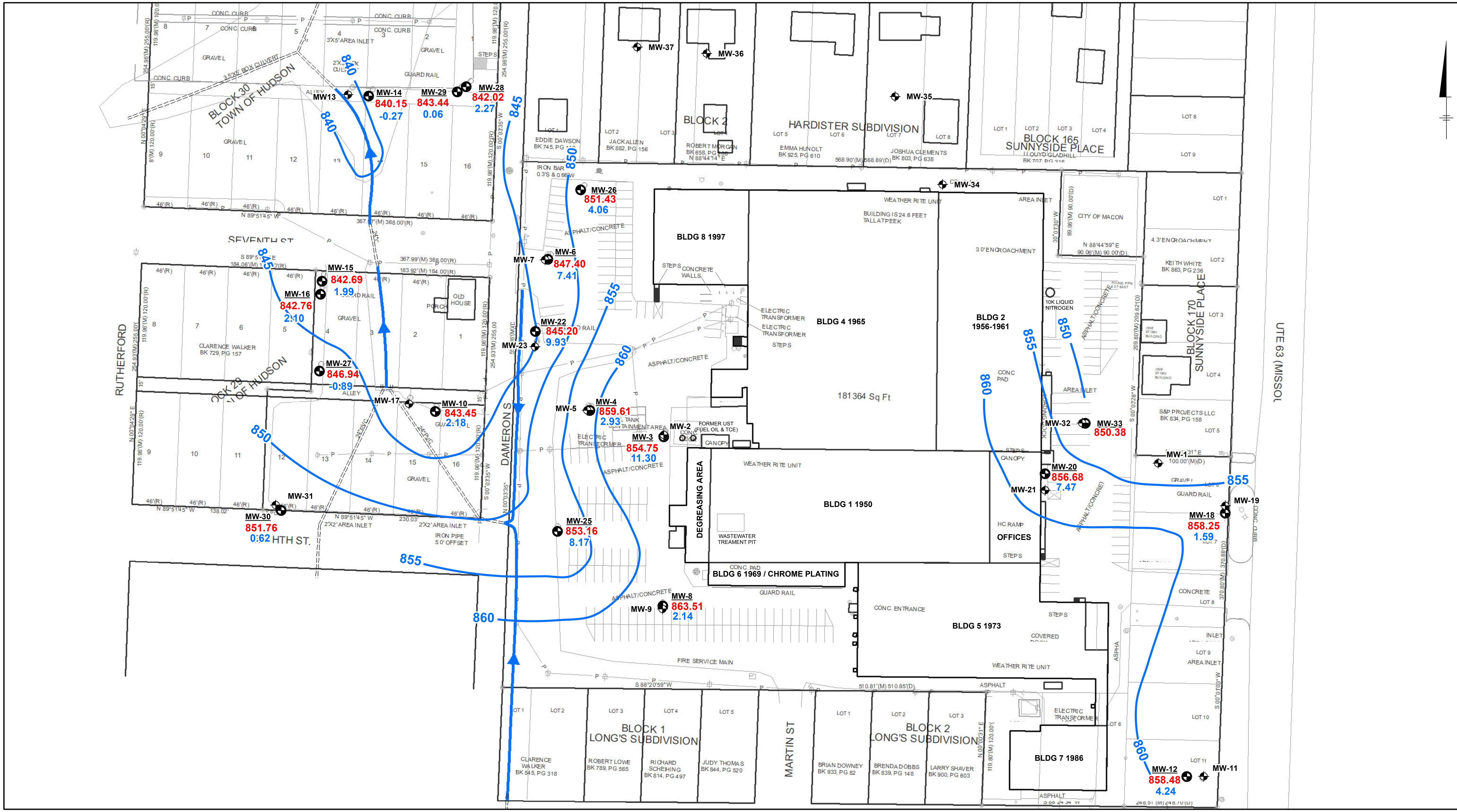
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SHALLOW GROUNDWATER ELEVATIONS JULY 09, 2019

ARCADIS Design & Consultancy for natural and built assets

FIGURE 15b

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\Fig 15b GWMON_SHALLOW_JULY092019.mxd 6/8/2020



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
851.76 - GROUNDWATER ELEVATION (AMSL)
0.62 - DTW BGS

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. MW-32 AND MW-34 WERE MEASURED ON FEBRUARY 23, 2018. ALL OTHER WELLS MEASURED ON FEBRUARY 20, 2018.

0 100 200
GRAPHIC SCALE IN FEET

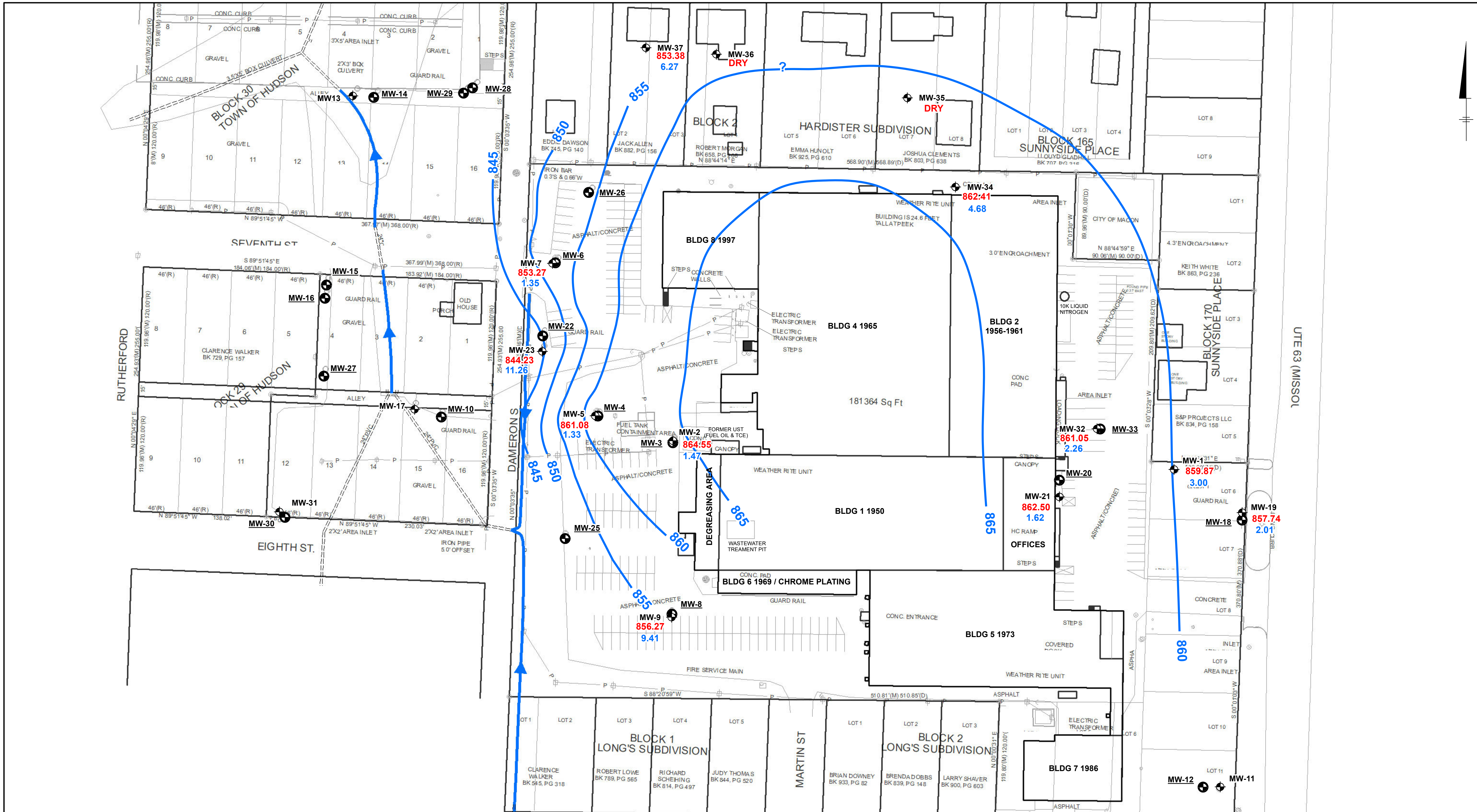
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

DEEP GROUNDWATER ELEVATIONS
JULY 09, 2019

ARCADIS Design & Consultancy for natural and built assets

FIGURE
15bb

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\Fig 15bb GWMON_DEEP_JULY092019.mxd 6/8/2020



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
853.38 - GROUNDWATER ELEVATION (AMSL)
6.27 - DTW BGS

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. MW-32 AND MW-34 WERE MEASURED ON FEBRUARY 23, 2018. ALL OTHER WELLS MEASURED ON FEBRUARY 20, 2018.

0 100 200
GRAPHIC SCALE IN FEET

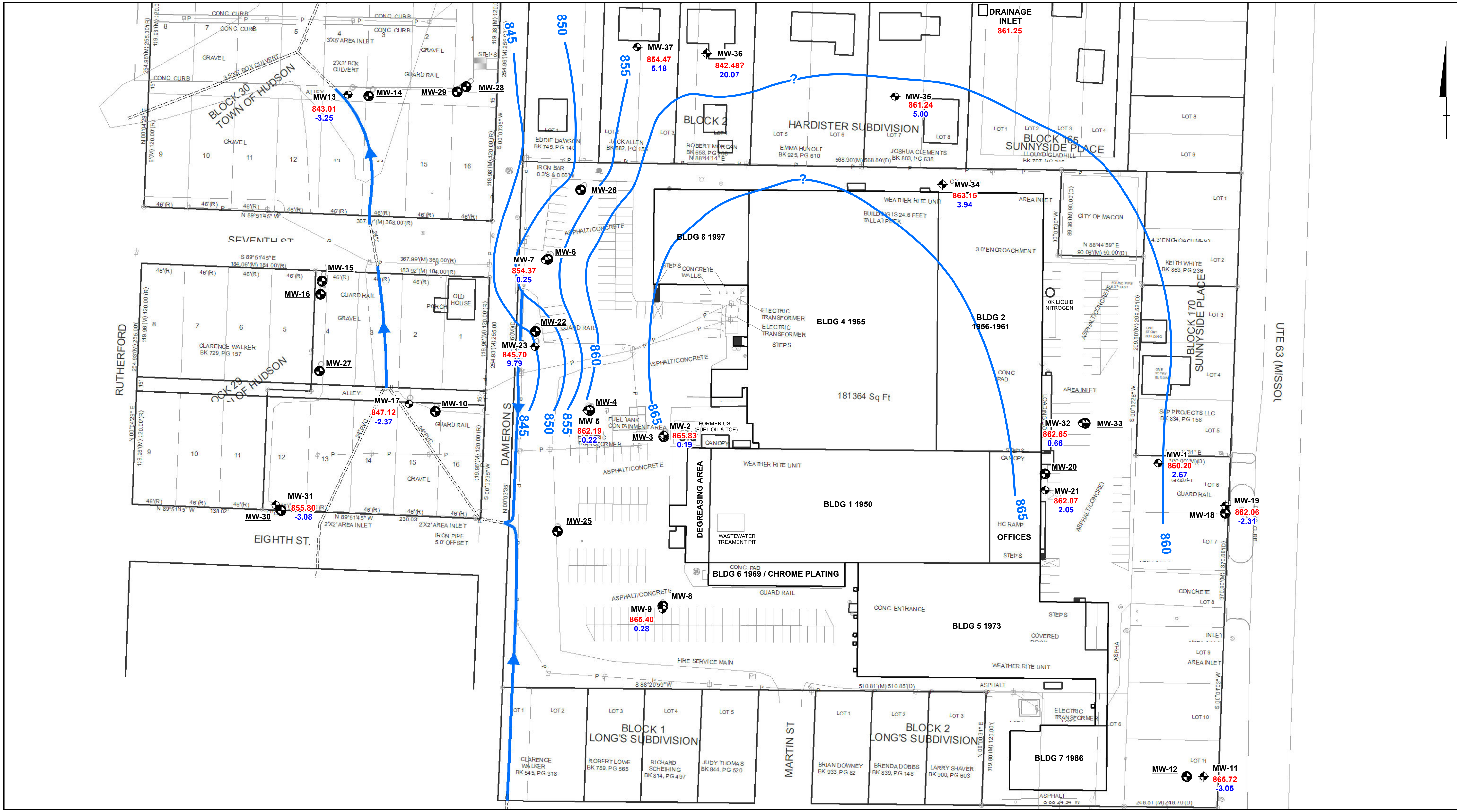
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SHALLOW GROUNDWATER ELEVATIONS JULY 24, 2019

ARCADIS Design & Consultancy for natural and built assets

FIGURE 15c

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\Fig 15c_GWMON_SHALLOW_JULY242019.mxd 6/8/2020



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE DRAINAGE AND CREEK
- ====== STORM WATER PIPE
- GROUNDWATER CONTOUR (FEET)

MW-3 = DEEP AQUIFER ZONE WELL
860.26 - GROUNDWATER ELEVATION (AMSL)
6.83 - DTW BGS

NOTES:
1. WELL DATA SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET
4. MW-32 AND MW-34 WERE MEASURED ON FEBRUARY 23, 2018. ALL OTHER WELLS MEASURED ON FEBRUARY 20, 2018.

0 100 200
GRAPHIC SCALE IN FEET

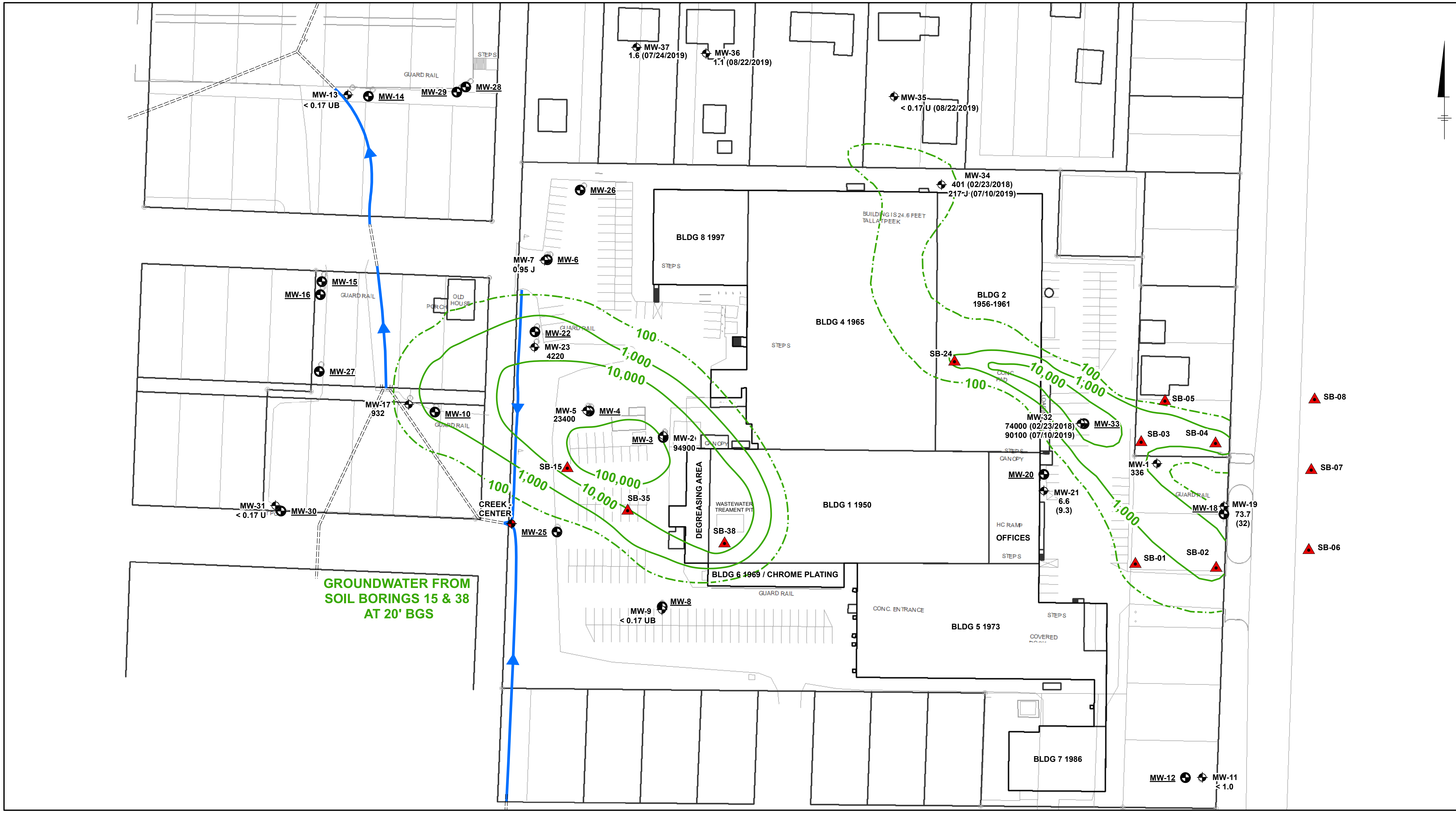
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

SHALLOW GROUNDWATER ELEVATIONS
OCTOBER 11, 2019

ARCADIS Design & Consultancy for natural and built assets

FIGURE
15d

Last Saved By: ldrum
Project:T:\ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\Fig 15d_GWMON_SHALLOW_Oct2019.mxd 6/8/2020



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE WATER SAMPLE LOCATION
- JUNE 2011 SOIL BORING LOCATION (SEE FIGURE 7a)
- CREEK
- STORM WATER PIPE
- -1,000- TRICHLOROETHENE ISOCONCENTRATION CONTOUR
- -100- TRICHLOROETHENE ISOCONCENTRATION CONTOUR (INFERRED)
- MW-2 = DEEP AQUIFER ZONE WELL
- **6.6** = TRICHLOROETHENE CONCENTRATION (µg/L)

NOTES:
1. WELL LOCATION SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET

0 100 200
GRAPHIC SCALE IN FEET

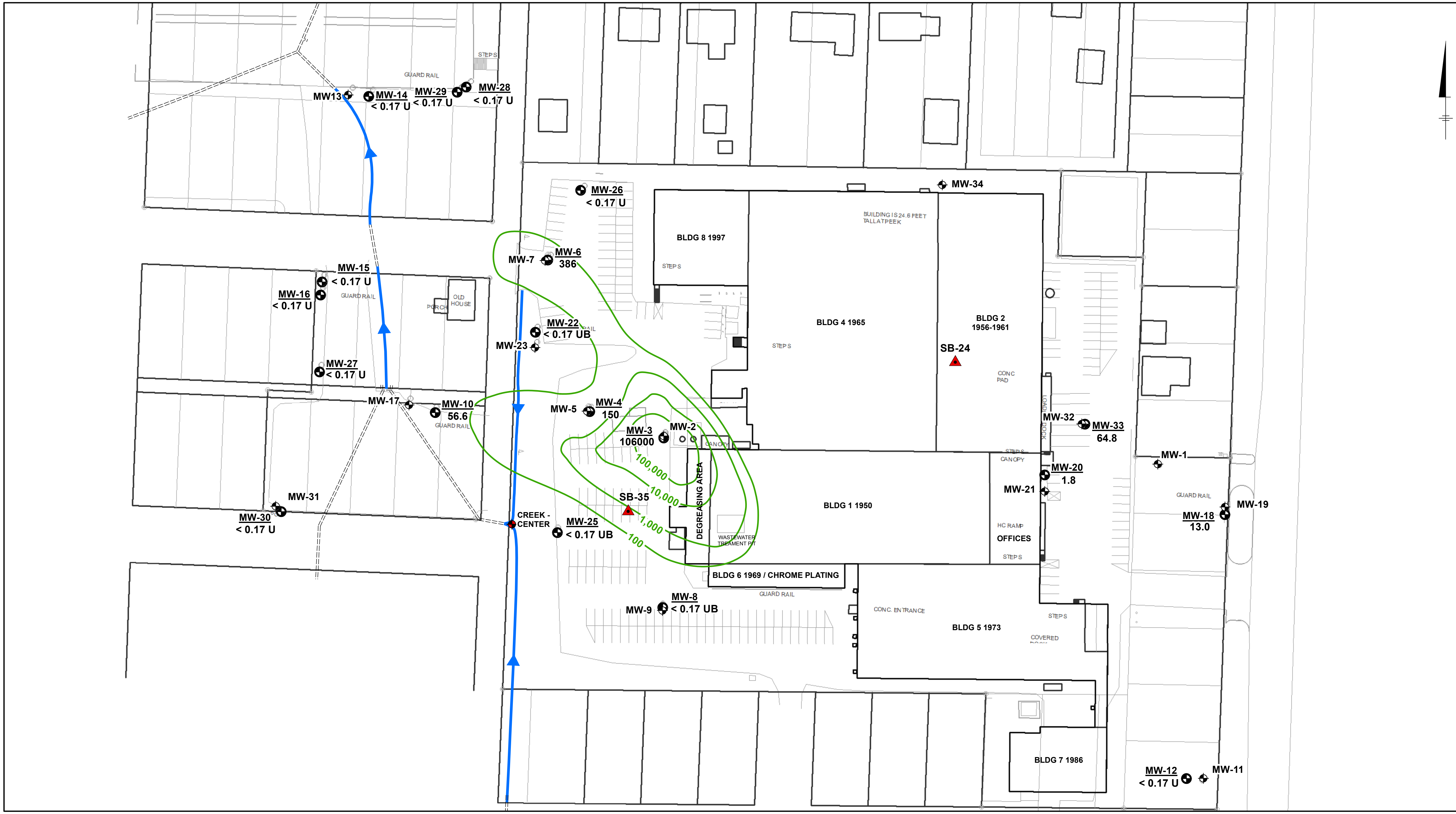
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

TRICHLOROETHENE GROUNDWATER ISOCONCENTRATION CONTOURS (SHALLOW) - FEBRUARY 2018 - AUGUST 2019

ARCADIS Design & Consultancy for natural and built assets

FIGURE
16a

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\GW_TCE_SHALLOW_Fig16a.mxd 7/13/2020



LEGEND

- SHALLOW AQUIFER ZONE WELL
- DEEP AQUIFER ZONE WELL
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION
- CREEK
- ====== STORM WATER PIPE
- — 100 — TRICHLOROETHENE ISOCONCENTRATION CONTOUR

MW-2 = DEEP AQUIFER ZONE WELL

43.1 = TRICHLOROETHENE CONCENTRATION (µg/L)

NOTES:
1. WELL LOCATION SOURCE: SCHAEFER SURVEYING SITE WELL SURVEY, DATED SEPTEMBER 2011.
2. BASE MAP DATA SOURCE: ALTA SURVEY DRAWING 001-SURVEY.DWG, DATED 2009.
3. COORDINATE SYSTEM: COORDINATE SYSTEM: NAD 1983 STATEPLANE MISSOURI CENTRAL FIPS 2402 FEET

0 100 200

GRAPHIC SCALE IN FEET

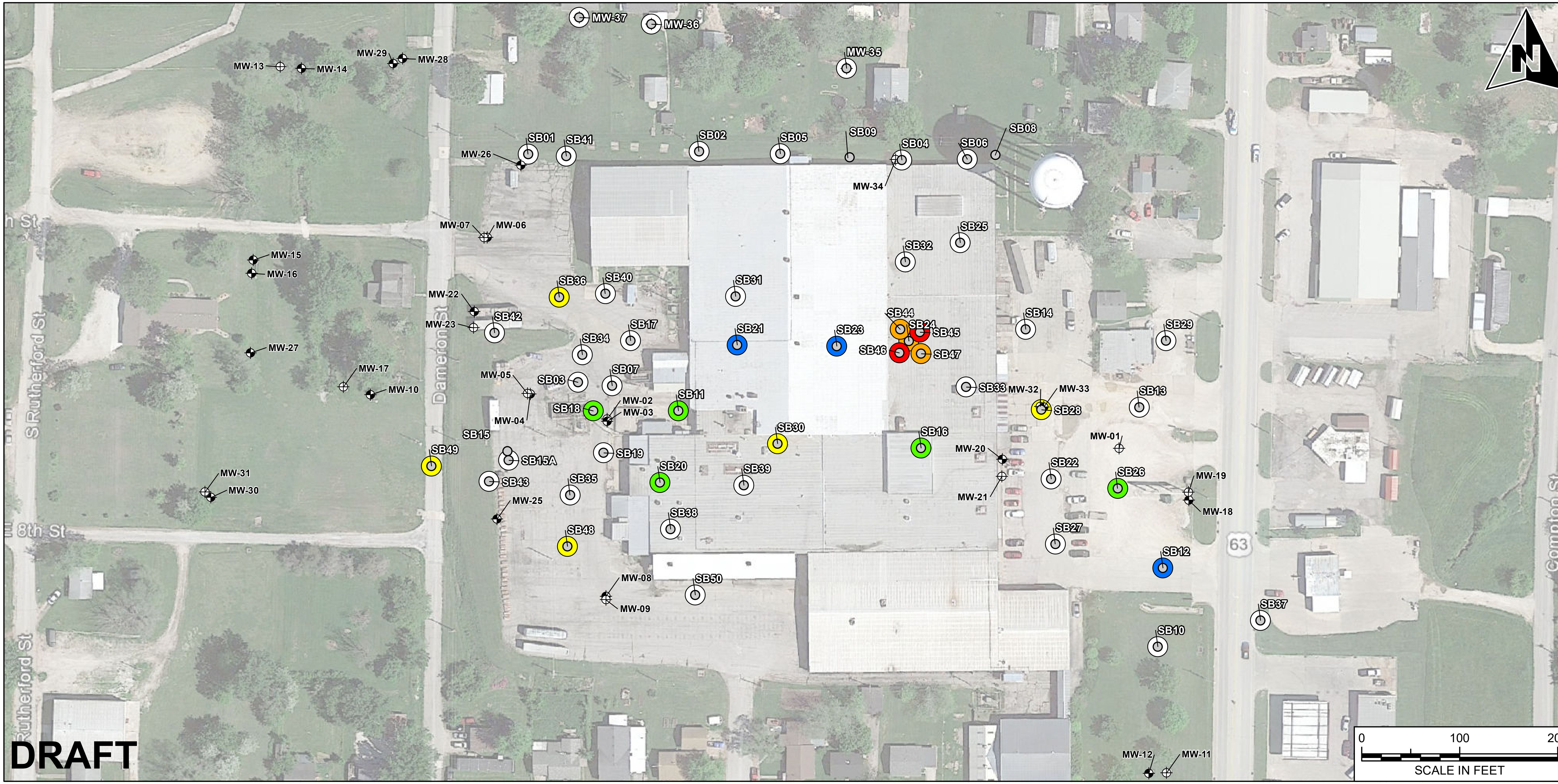
FORMER TOASTMASTER SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

TRICHLOROETHENE GROUNDWATER ISOCONCENTRATION CONTOURS (DEEP) - FEBRUARY 2018

ARCADIS Design & Consultancy for natural and built assets

FIGURE **16b**

Last Saved By: ldrum
Project:T:_ENV\Spectrum\Former_Toastmaster_Site\MXD\2020\GW_TCE_DEEP_1Q2018_Fig16b.mxd 7/13/2020



LEGEND

- DIRECT-PUSH LOCATION (54)
- SHALLOW AQUIFER WELL (17)
- DEEP AQUIFER WELL (19)

MAXIMUM TCE DETECTIONS IN VADOSE SOIL (ug/kg)

- NON-DETECT
- MDL - <36
- >36 - 100
- >100 - 1,000
- >1,000 - 10,000
- >10,000

NOTES

1) TCE - TRICHLOROETHENE

2) µg/kg - MICROGRAMS PER KILOGRAM

3) DIRECT-PUSH SOIL BORINGS SB01 THROUGH SB43 ADVANCED IN OCTOBER/NOVEMBER 2017 AND SB44 THROUGH SB50 ADVANCED IN FEBRUARY 2018.

4) LOCATION SB43 WAS ONLY ADVANCED TO 6 FEET BELOW GROUND SURFACE DUE TO UNCERTAINTY OF PROXIMITY TO NEARBY SUBSURFACE UTILITY.

5) MONITORING WELLS MW-32, MW-33, AND MW-34 INSTALLED IN FEBRUARY 2018. MONITORING WELLS MW-35, MW-36, AND MW-37 INSTALLED IN JULY 2019.

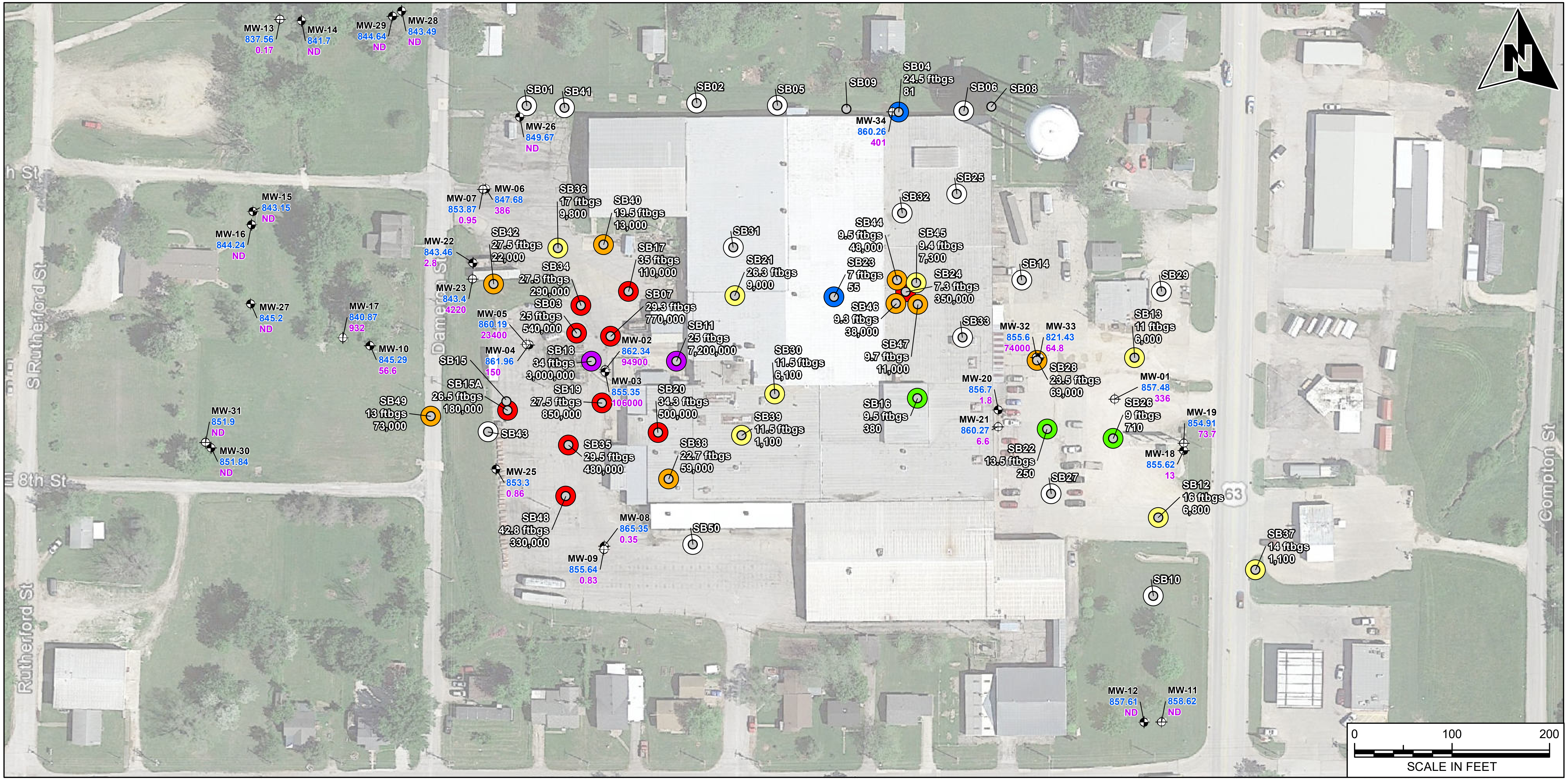
TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

2017-2019 EECA FIELD INVESTIGATION LOCATIONS TCE IN VADOSE SOIL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
17

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (OK002101.2017)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 17 VADOSE TCE SOIL RESULTS.mxd 7/23/2020 12:11:34 PM



LEGEND

- DIRECT-PUSH LOCATION (51)
- SHALLOW AQUIFER WELL
- DEEP AQUIFER WELL

840.10 - FEBRUARY 2018 SHALLOW GROUNDWATER ELEVATION
856.00 - FEBRUARY 2018 DEEP GROUNDWATER ELEVATION
0.17 - FEBRUARY 2018 LOW-FLOW SAMPLE TCE RESULT (µg/L)

MAXIMUM TCE DETECTIONS IN EQUIVALENT GROUNDWATER (µg/L)

- NON-DETECT
- MDL - 100
- >100 - 1,000
- > 1,000 - 10,000
- >10,000 - 100,000
- >100,000 - 1,000,000
- > 1,000,000

NOTES

1) ftbgs - FEET BELOW GROUND SURFACE

2) TCE - TRICHLOROETHENE

3) MDL - METHOD DETECTION LIMIT

4) µg/L - MICROGRAMS PER LITER

5) DIRECT-PUSH BORINGS SB01 THROUGH SB43 ADVANCED IN OCTOBER/NOVEMBER 2017 AND SB44 THROUGH SB50 ADVANCED IN FEBRUARY 2018.

6) LOCATION SB43 WAS ONLY ADVANCED TO 6 FEET BELOW GROUND SURFACE DUE TO UNCERTAINTY OF PROXIMITY TO NEARBY SUBSURFACE UTILITY.

7) MONITORING WELLS MW-32, MW-33, AND MW-34 INSTALLED IN FEBRUARY 2018.

TOASTMASTER MACON SITE
704 SOUTH MISSOURI STREET
MACON, MISSOURI

2017-2018 EE/CA FIELD INVESTIGATION LOCATIONS TCE IN EQUIVALENT GROUNDWATER

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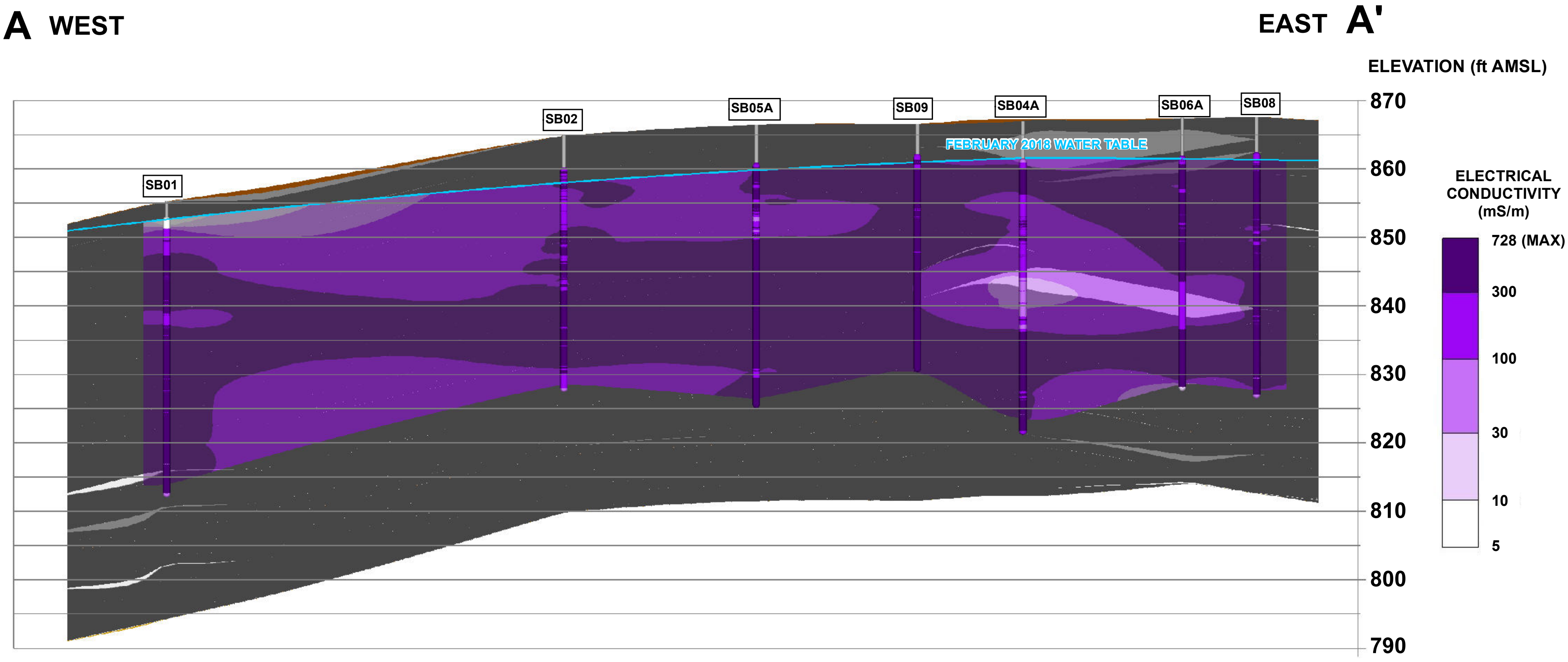
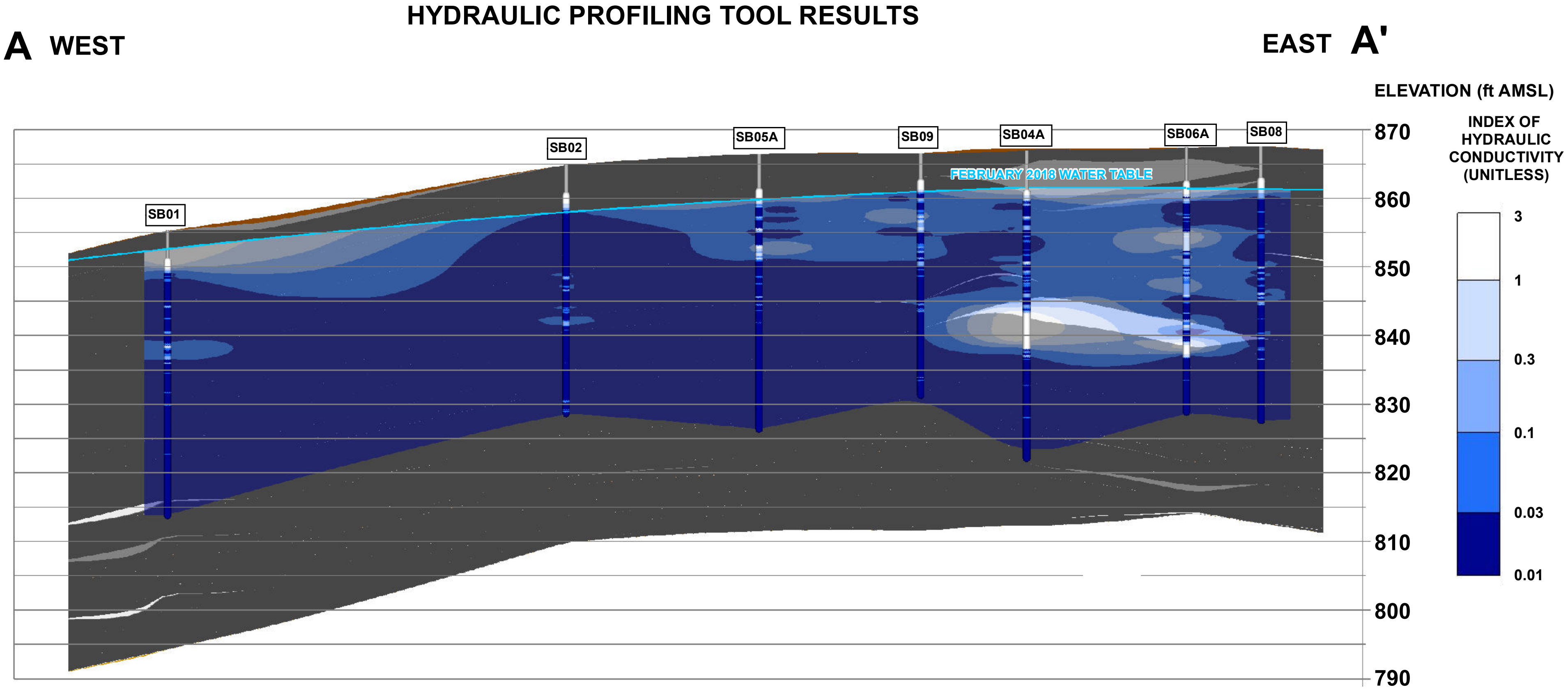
FIGURE
18

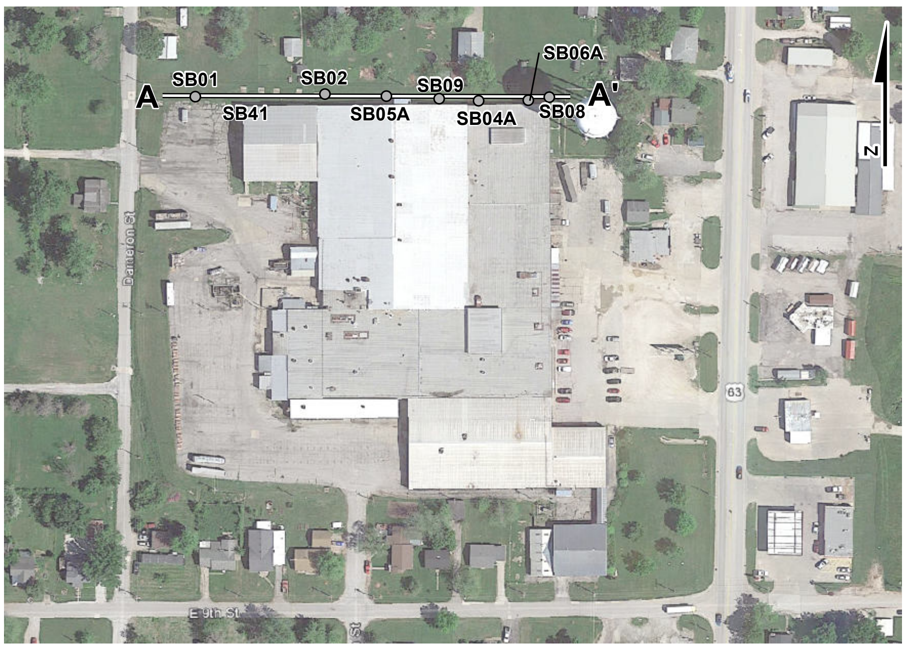
City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (OK002101.2017)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 18 MAX TCE EQUIV GW DETECTS.mxd 7/13/2018 5:47:17 PM

ELECTRICAL CONDUCTIVITY SCREENING RESULTS



HYDRAULIC PROFILING TOOL RESULTS





STRATIGRAPHIC FLUX LEGEND

- **HISTORICAL FILL** – CLAY WITH SOME SILT AND SAND
- **TRANSPORT ZONE** – VARIES FROM FINE TO COARSE SAND
- **SLOW ADVECTION ZONE** – SILT TO CLAYEY SILT
- **STORAGE ZONE** – CLAY TO SILTY CLAY; VERTICAL SILT TO FINE SAND-FILLED FRACTURES BETWEEN 1 TO 10 MM IN THICKNESS PRESENT THROUGHOUT STORAGE ZONE

NOTES

1. ft AMSL - FEET ABOVE MEAN SEA LEVEL
2. mS/m - MILLISIEMENS PER METER

TOASTMASTER MACON SITE
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MACON, MISSOURI

WATERLOO APS TM SCREENING RESULTS NORTHERN SITE BOUNDARY

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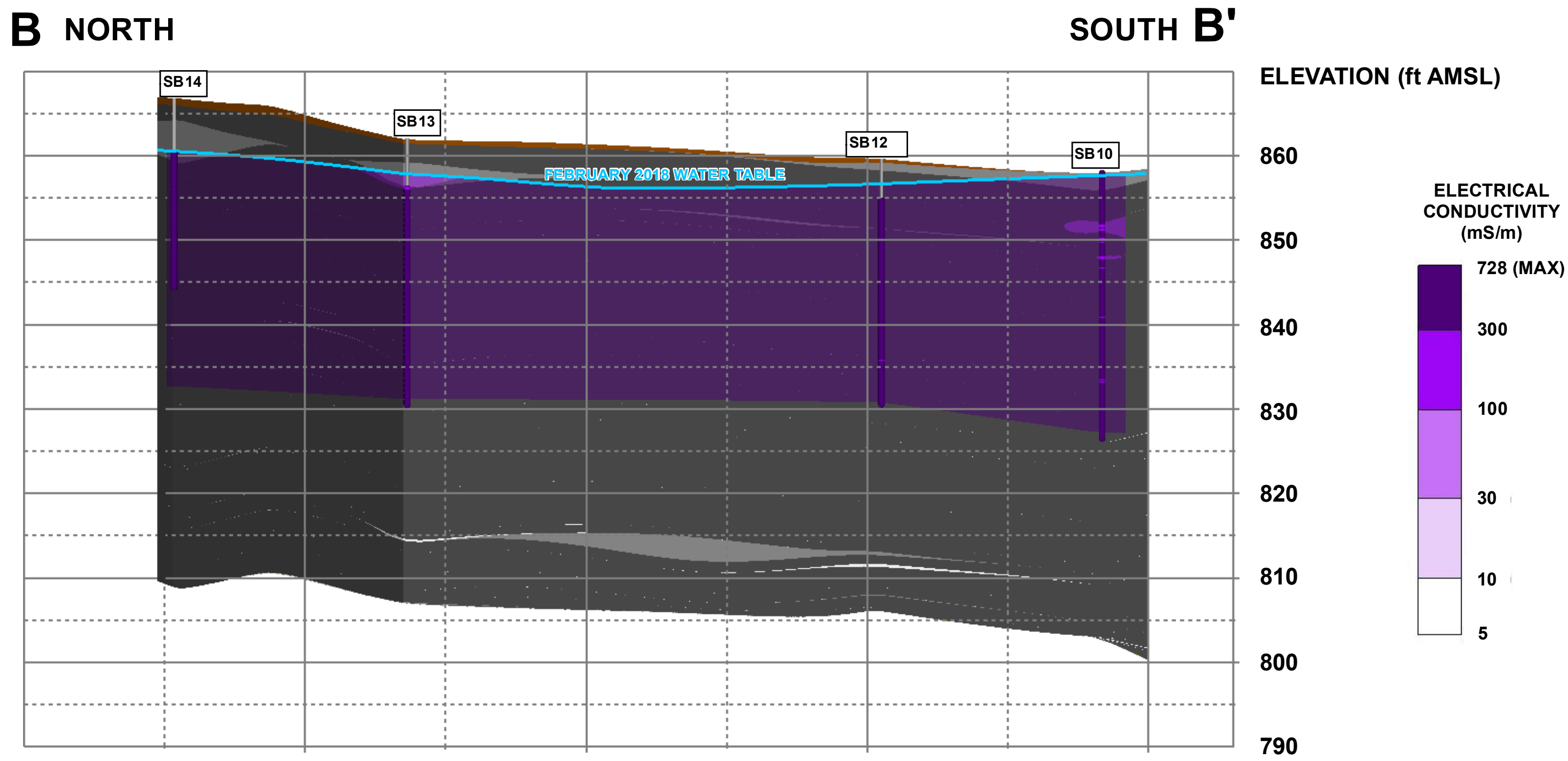
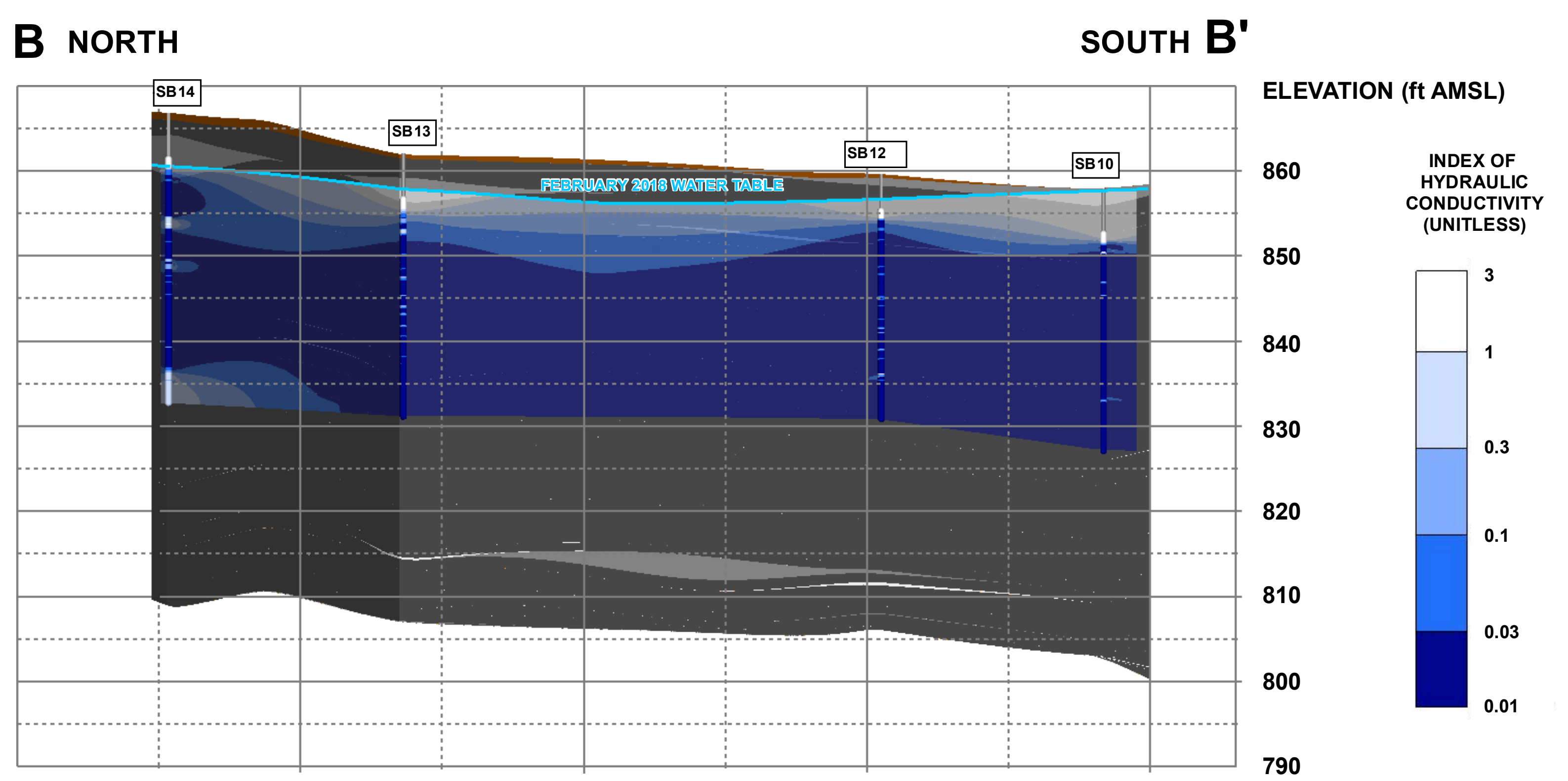
FIGURE **19a**

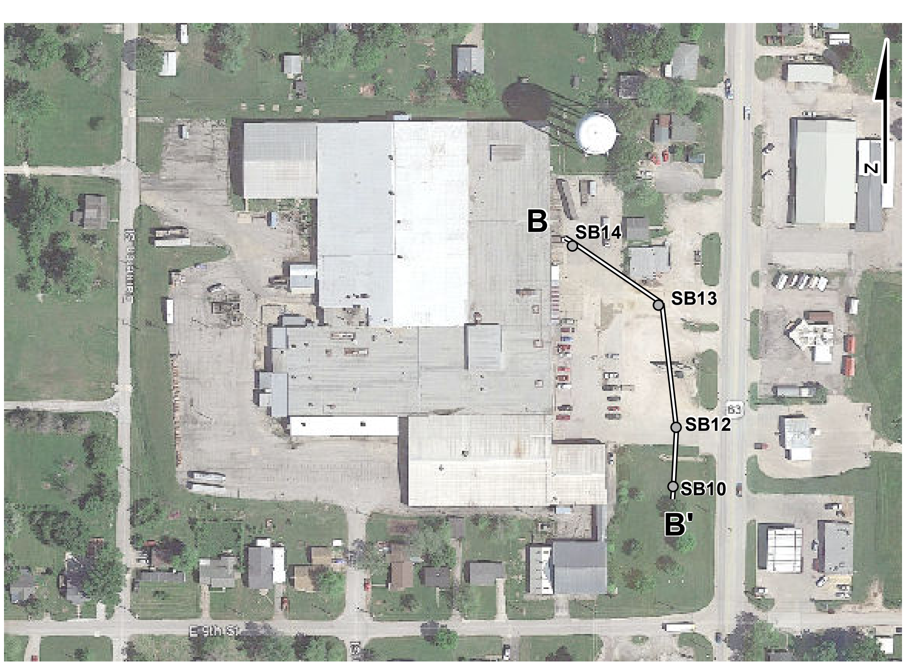
City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (OK002101.2017)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 19a NORTH BOUNDARY WATERLOO TRANSECT.mxd 5/24/2019 2:03:49 PM

ELECTRICAL CONDUCTIVITY SCREENING RESULTS



HYDRAULIC PROFILING TOOL RESULTS





STRATIGRAPHIC FLUX LEGEND

- **HISTORICAL FILL**
  CLAY WITH SOME SILT AND SAND
- **TRANSPORT ZONE**
  VARIES FROM FINE TO COARSE SAND
- **SLOW ADVECTION ZONE**
  SILT TO CLAYEY SILT
- **STORAGE ZONE**
  CLAY TO SILTY CLAY; VERTICAL SILT TO FINE SAND-FILLED FRACTURES BETWEEN 1 TO 10 MM IN THICKNESS PRESENT THROUGHOUT STORAGE ZONE

NOTES

1. ft AMSL - FEET ABOVE MEAN SEA LEVEL
2. mS/m - MILLISIEMENS PER METER

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WATERLOO APS TM SCREENING RESULTS
EASTERN SITE AREA

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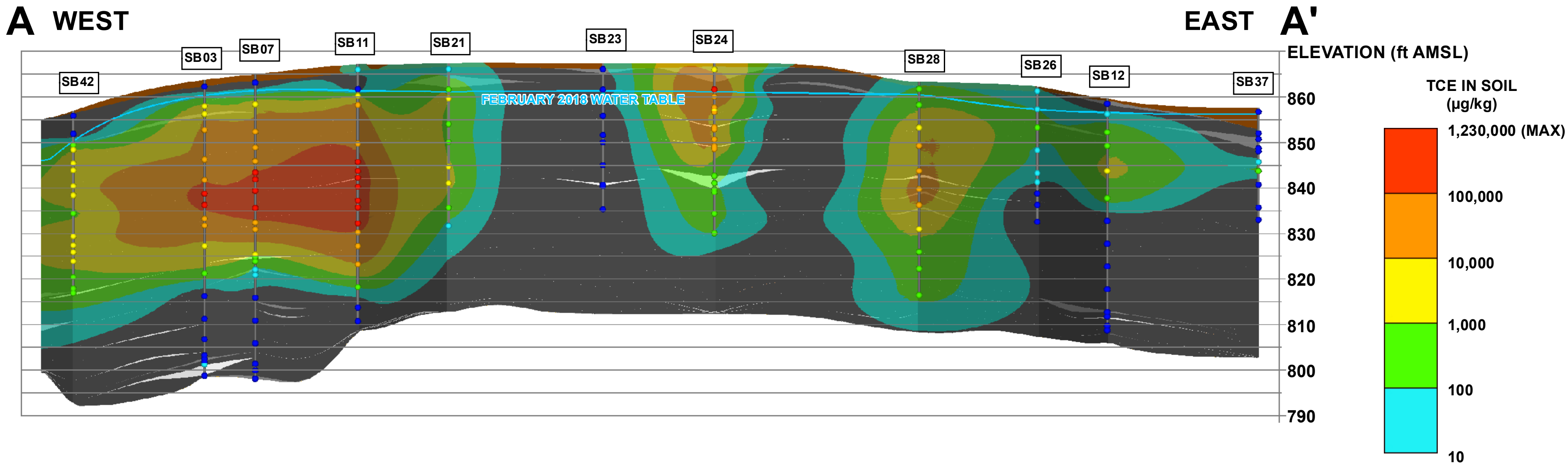
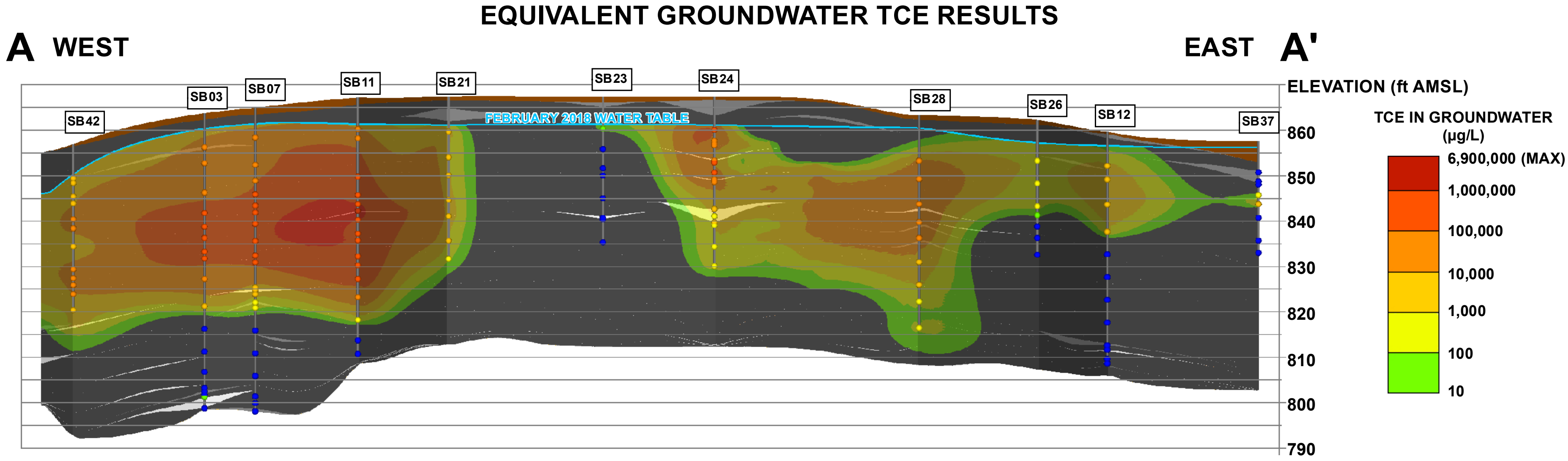
FIGURE
19b

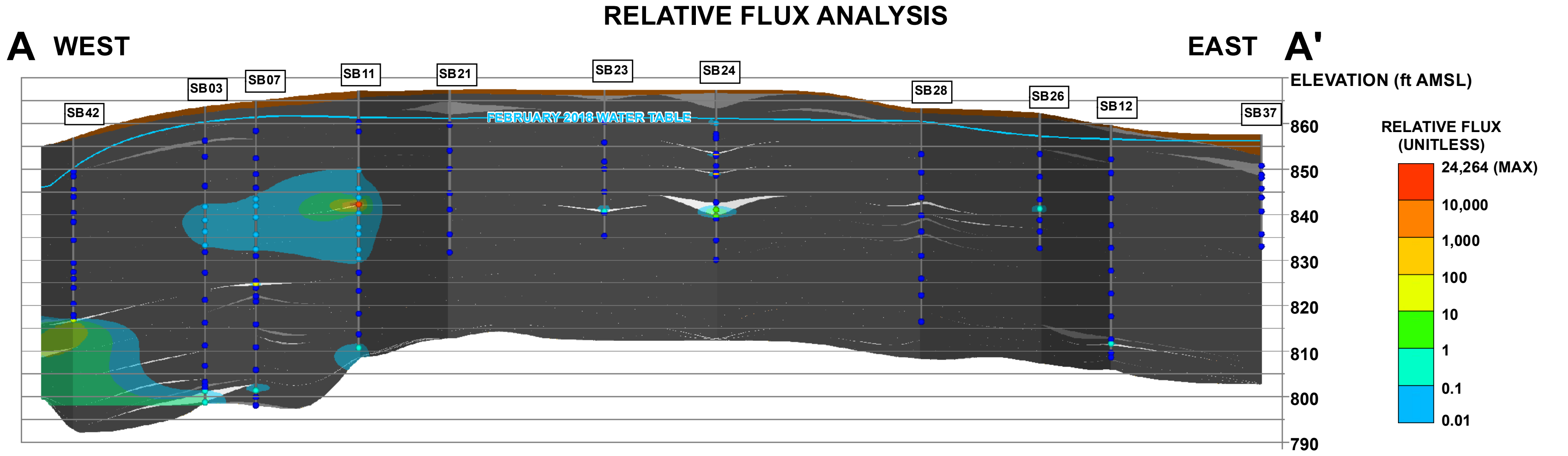
SOIL SAMPLING TCE RESULTS

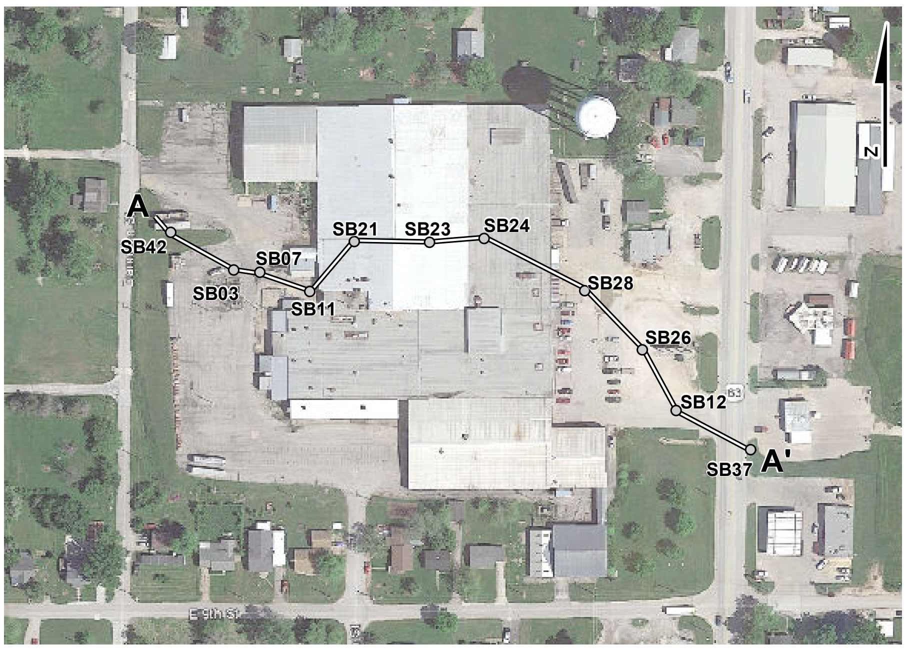


EQUIVALENT GROUNDWATER TCE RESULTS



RELATIVE FLUX ANALYSIS





STRATIGRAPHIC FLUX LEGEND

HISTORICAL FILL
CLAY WITH SOME SILT AND SAND

TRANSPORT ZONE
VARIES FROM FINE TO COARSE SAND

SLOW ADVECTION ZONE
SILT TO CLAYEY SILT

STORAGE ZONE
CLAY TO SILTY CLAY; VERTICAL SILT TO FINE SAND-FILLED FRACTURES BETWEEN 1 TO 10 MM IN THICKNESS PRESENT THROUGHOUT STORAGE ZONE

NOTES

1. ft AMSL - FEET ABOVE MEAN SEA LEVEL
2. kg - KILOGRAMS
3. L - LITERS
4. MM - MILLIMETERS
5. µg - MICROGRAMS
6. TCE - TRICHLOROETHENE

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MACON, MISSOURI

TRANSECT A-A'

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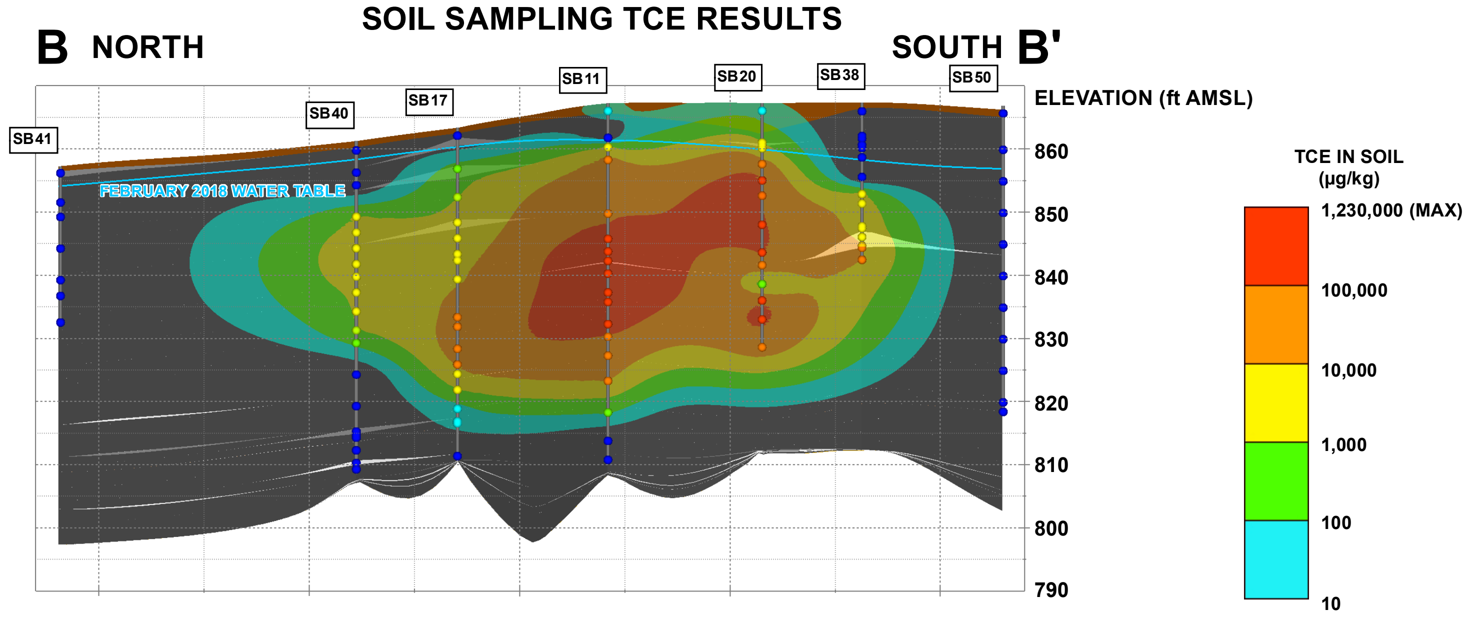
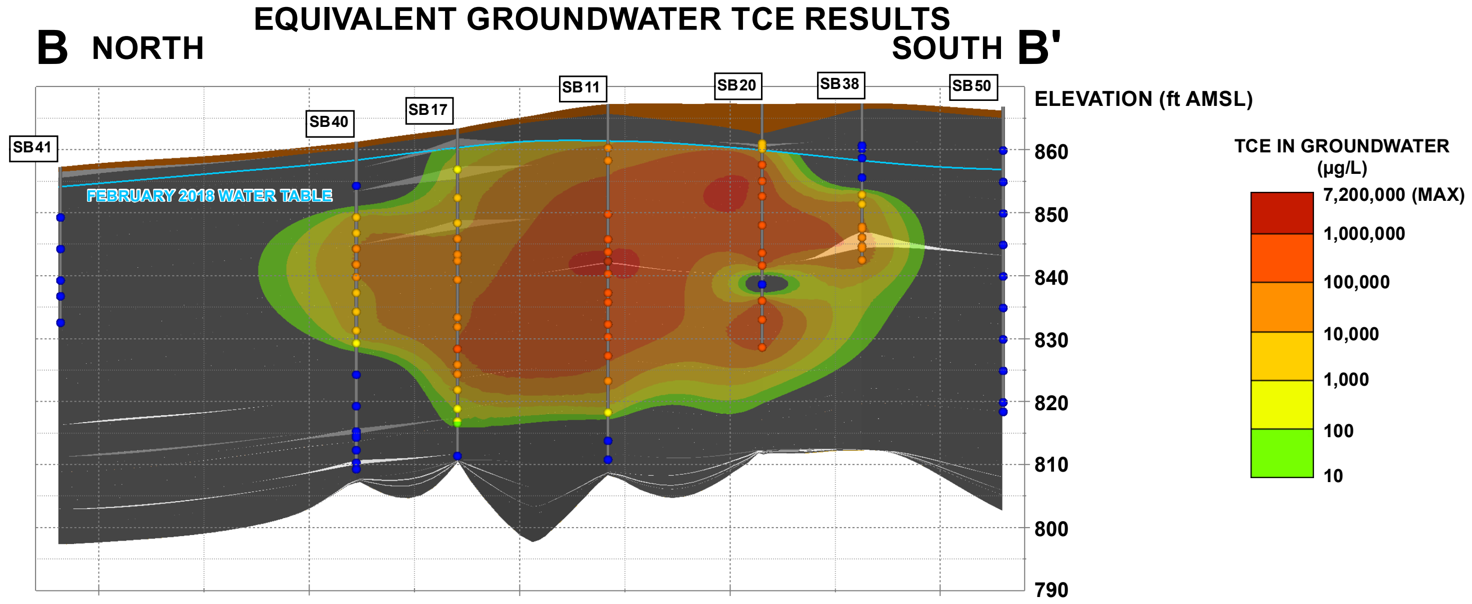
FIGURE **20a**

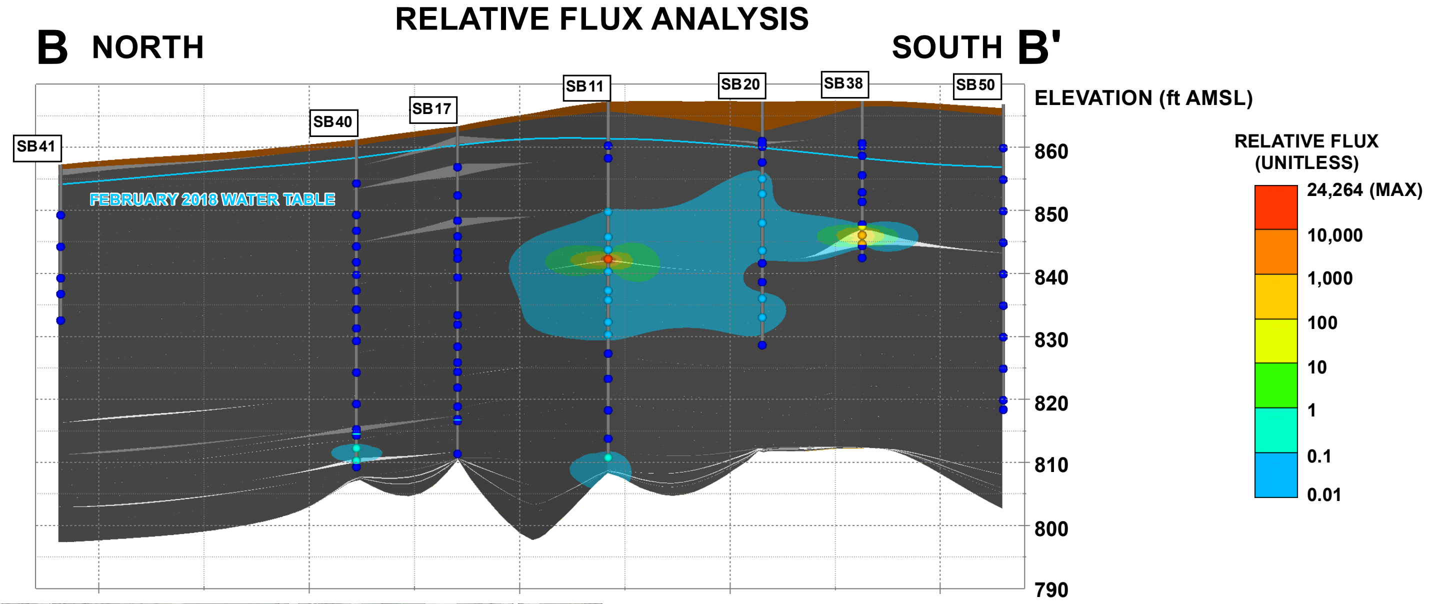
SOIL SAMPLING TCE RESULTS

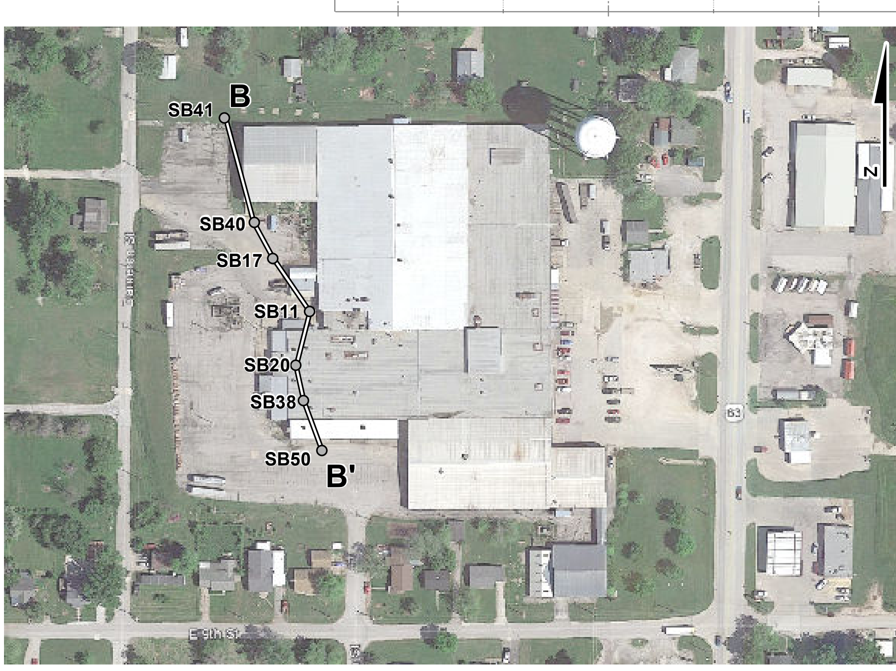


EQUIVALENT GROUNDWATER TCE RESULTS



RELATIVE FLUX ANALYSIS





STRATIGRAPHIC FLUX LEGEND

HISTORICAL FILL
CLAY WITH SOME SILT AND SAND

TRANSPORT ZONE
VARIES FROM FINE TO COARSE SAND

SLOW ADVECTION ZONE
SILT TO CLAYEY SILT

STORAGE ZONE
CLAY TO SILTY CLAY; VERTICAL SILT TO FINE SAND-FILLED FRACTURES BETWEEN 1 TO 10 MM IN THICKNESS PRESENT THROUGHOUT STORAGE ZONE

NOTES

1. ft AMSL - FEET ABOVE MEAN SEA LEVEL
2. kg - KILOGRAMS
3. L - LITERS
4. MM - MILLIMETERS
5. µg - MICROGRAMS
6. TCE - TRICHLOROETHENE

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MACON, MISSOURI

TRANSECT B-B'

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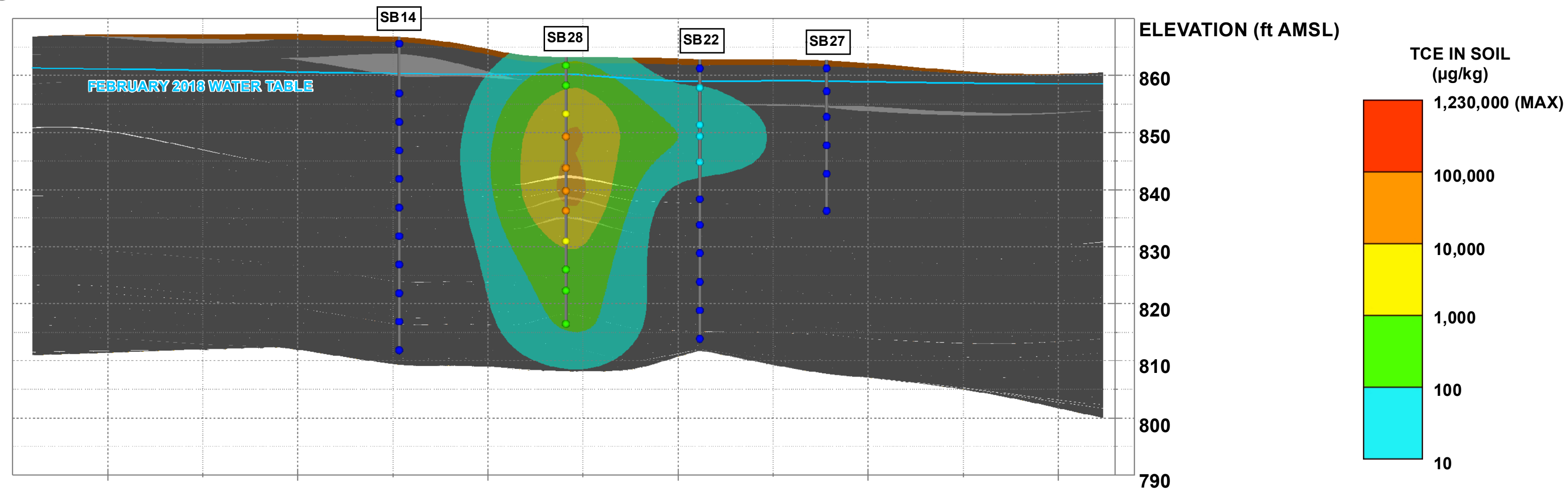
FIGURE
20b

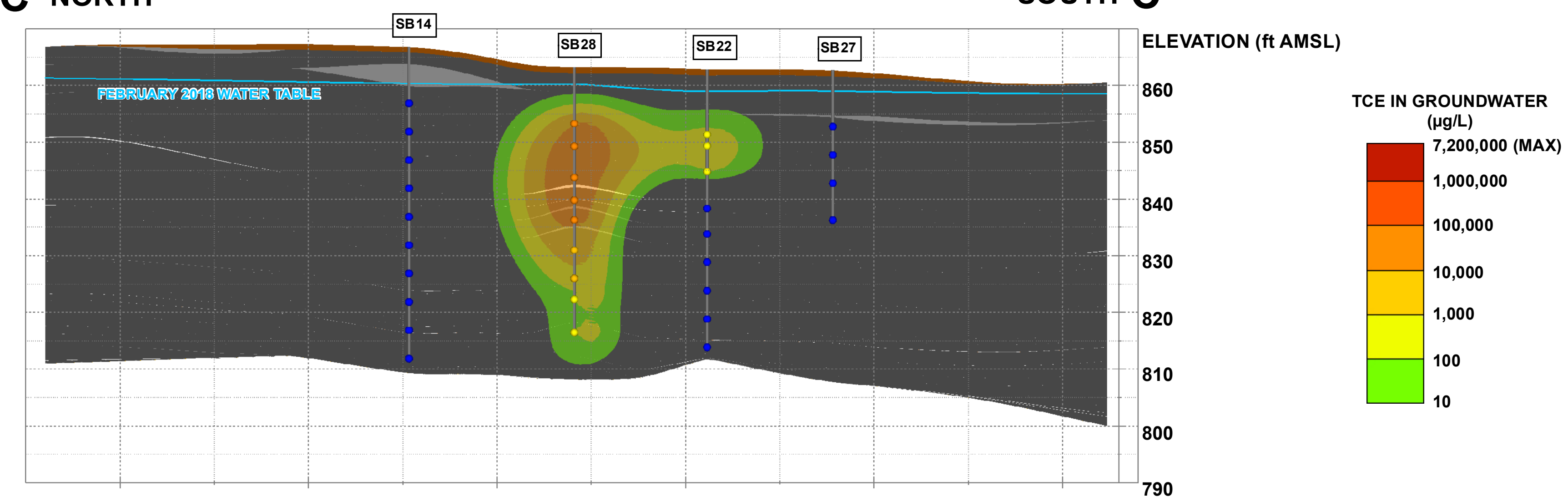
SOIL SAMPLING TCE RESULTS

C NORTH — SOUTH C'



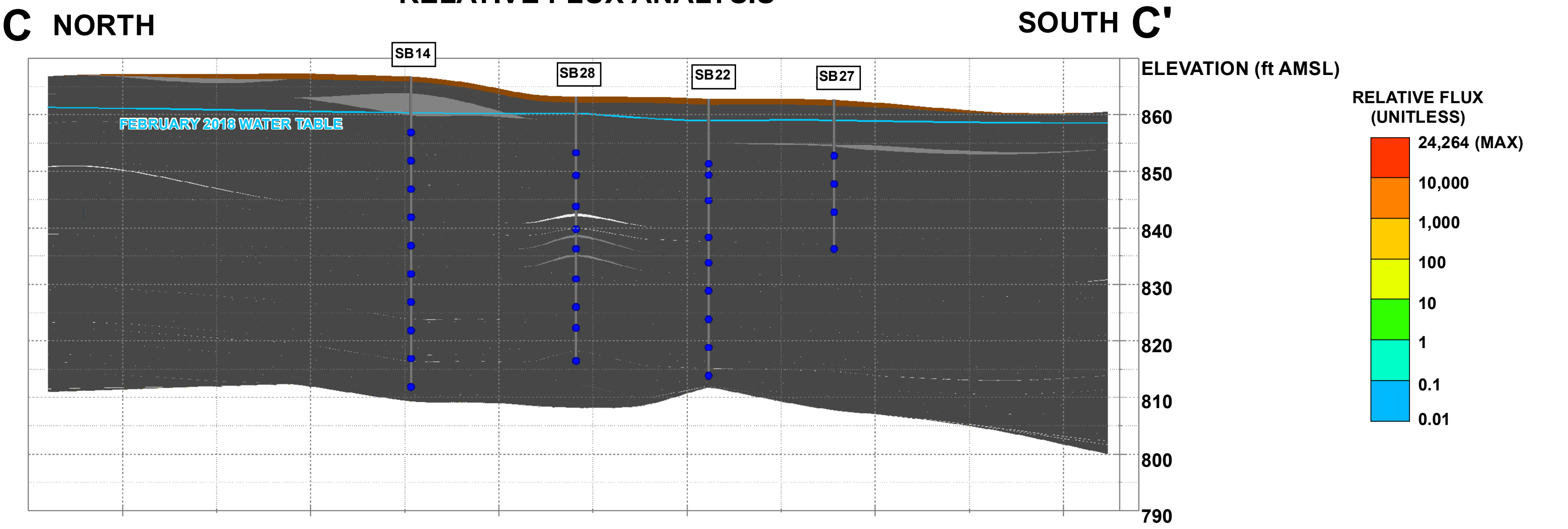
EQUIVALENT GROUNDWATER TCE RESULTS

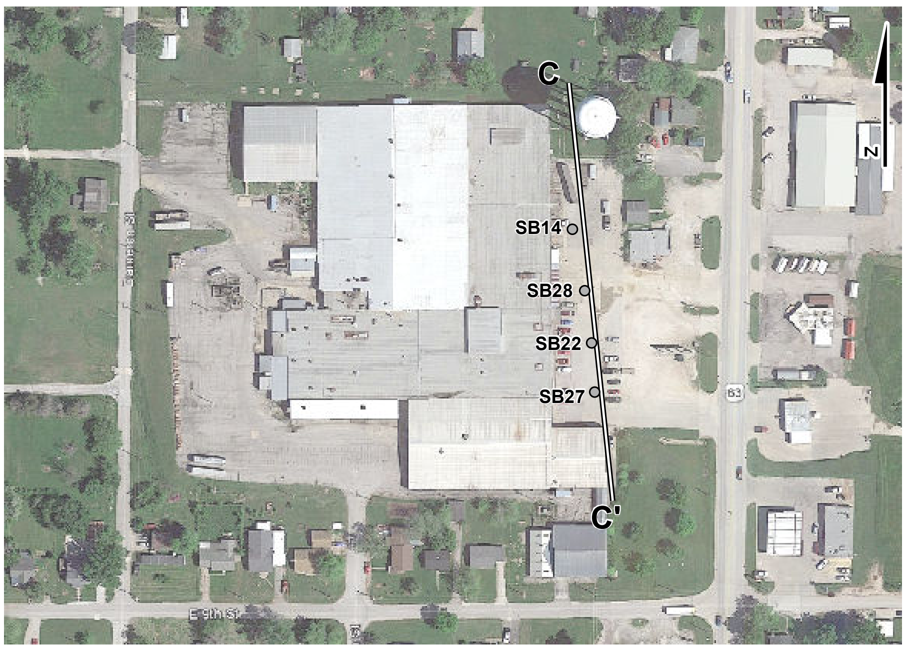
C NORTH — SOUTH C'



RELATIVE FLUX ANALYSIS

C NORTH — SOUTH C'





STRATIGRAPHIC FLUX LEGEND

- **HISTORICAL FILL** — CLAY WITH SOME SILT AND SAND
- **TRANSPORT ZONE** — VARIES FROM FINE TO COARSE SAND
- **SLOW ADVECTION ZONE** — SILT TO CLAYEY SILT
- **STORAGE ZONE** — CLAY TO SILTY CLAY; VERTICAL SILT TO FINE SAND-FILLED FRACTURES BETWEEN 1 TO 10 MM IN THICKNESS PRESENT THROUGHOUT STORAGE ZONE

NOTES

1. ft AMSL - FEET ABOVE MEAN SEA LEVEL
2. kg - KILOGRAMS
3. L - LITERS
4. MM - MILLIMETERS
5. µg - MICROGRAMS
6. TCE - TRICHLOROETHENE

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MACON, MISSOURI

TRANSECT C-C'

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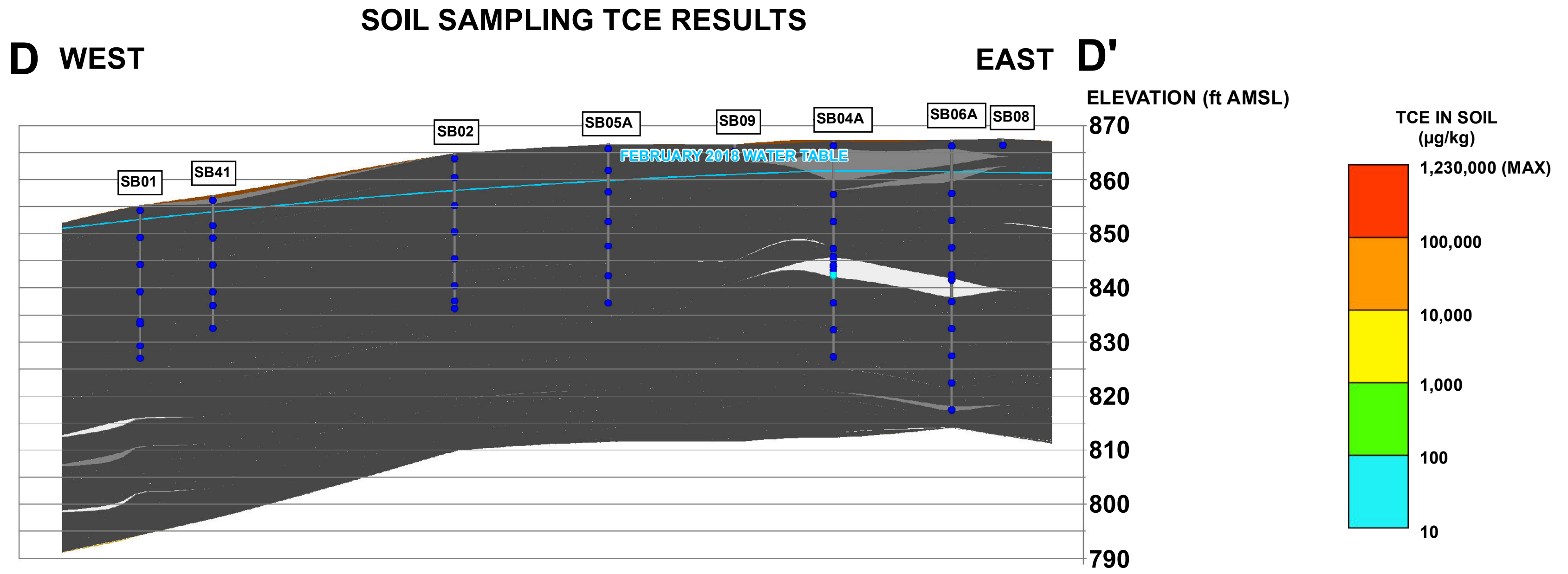
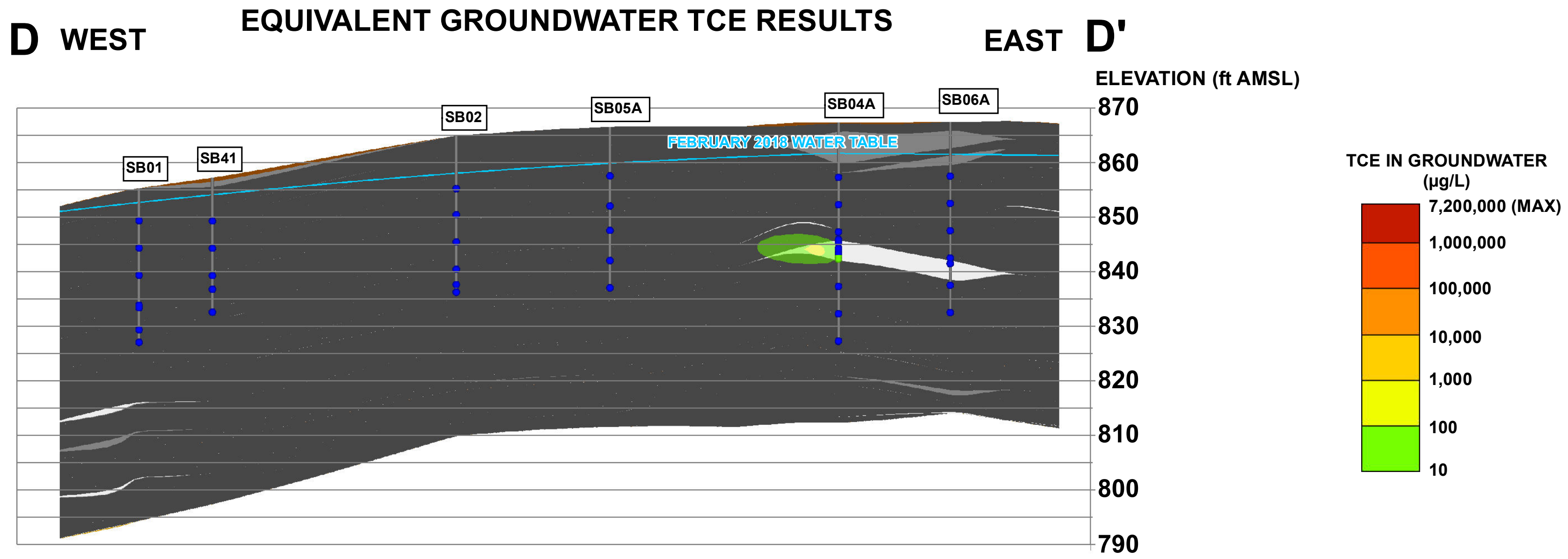
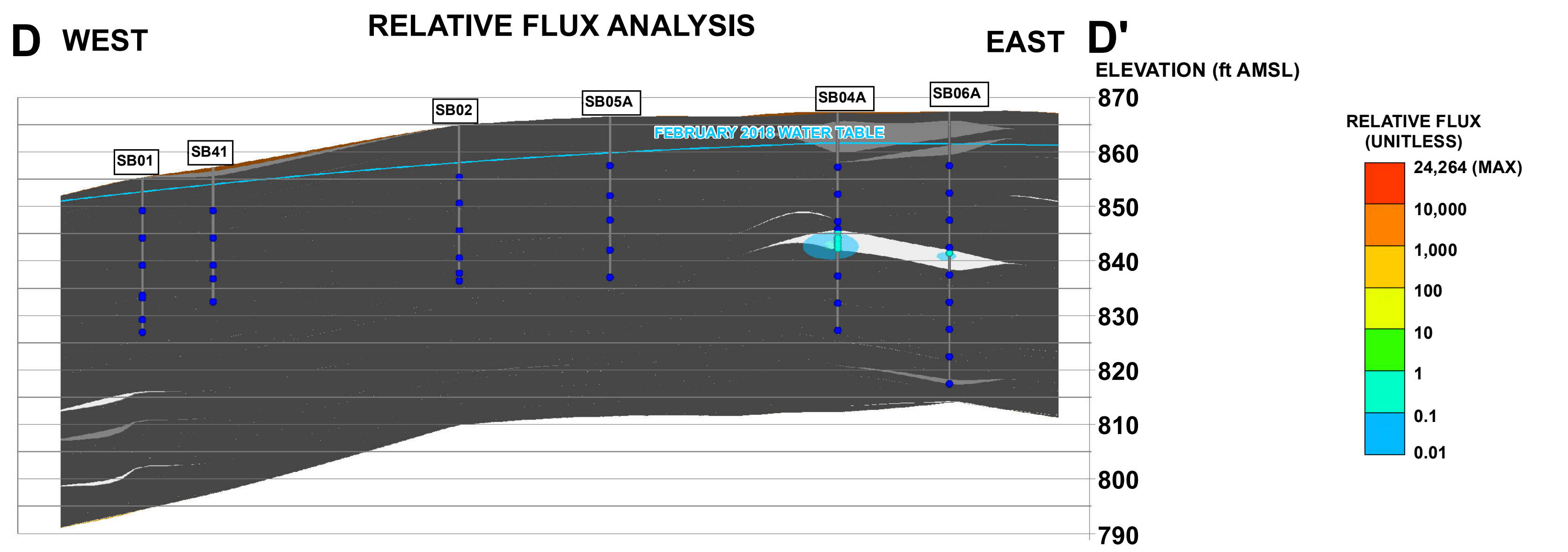
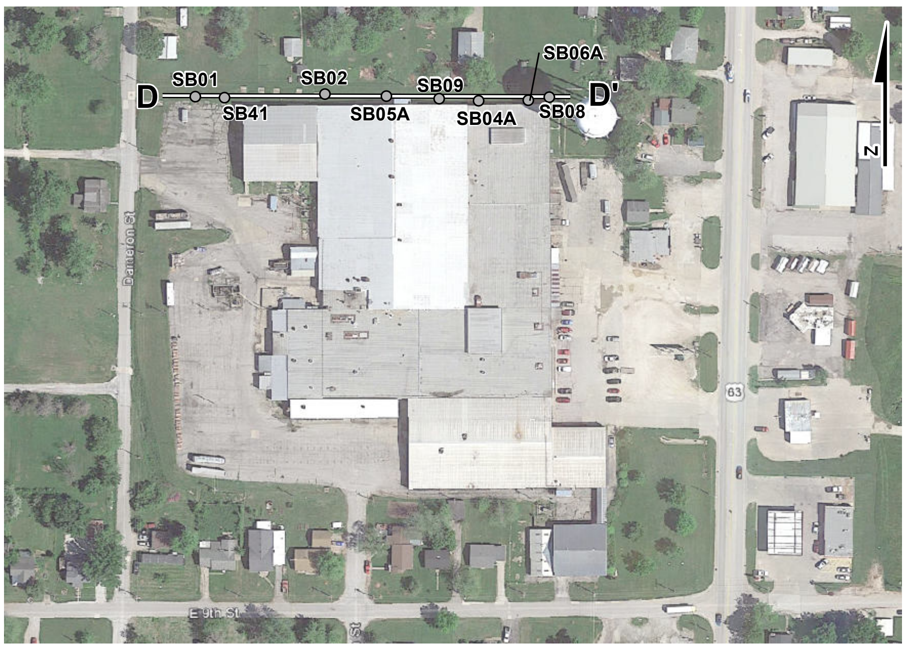
FIGURE **20c**

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (30050569.00002)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 20c TRANSECT C-C_PORTRAIT.mxd 6/1/2020 3:00:43 PM









STRATIGRAPHIC FLUX LEGEND

HISTORICAL FILL
CLAY WITH SOME SILT AND SAND

TRANSPORT ZONE
VARIES FROM FINE TO COARSE SAND

SLOW ADVECTION ZONE
SILT TO CLAYEY SILT

STORAGE ZONE
CLAY TO SILTY CLAY; VERTICAL SILT TO FINE SAND-FILLED FRACTURES BETWEEN 1 TO 10 MM IN THICKNESS PRESENT THROUGHOUT STORAGE ZONE

NOTES

1. ft AMSL - FEET ABOVE MEAN SEA LEVEL
2. kg - KILOGRAMS
3. L - LITERS
4. MM - MILLIMETERS
5. µg - MICROGRAMS
6. TCE - TRICHLOROETHENE

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TRANSECT D-D'

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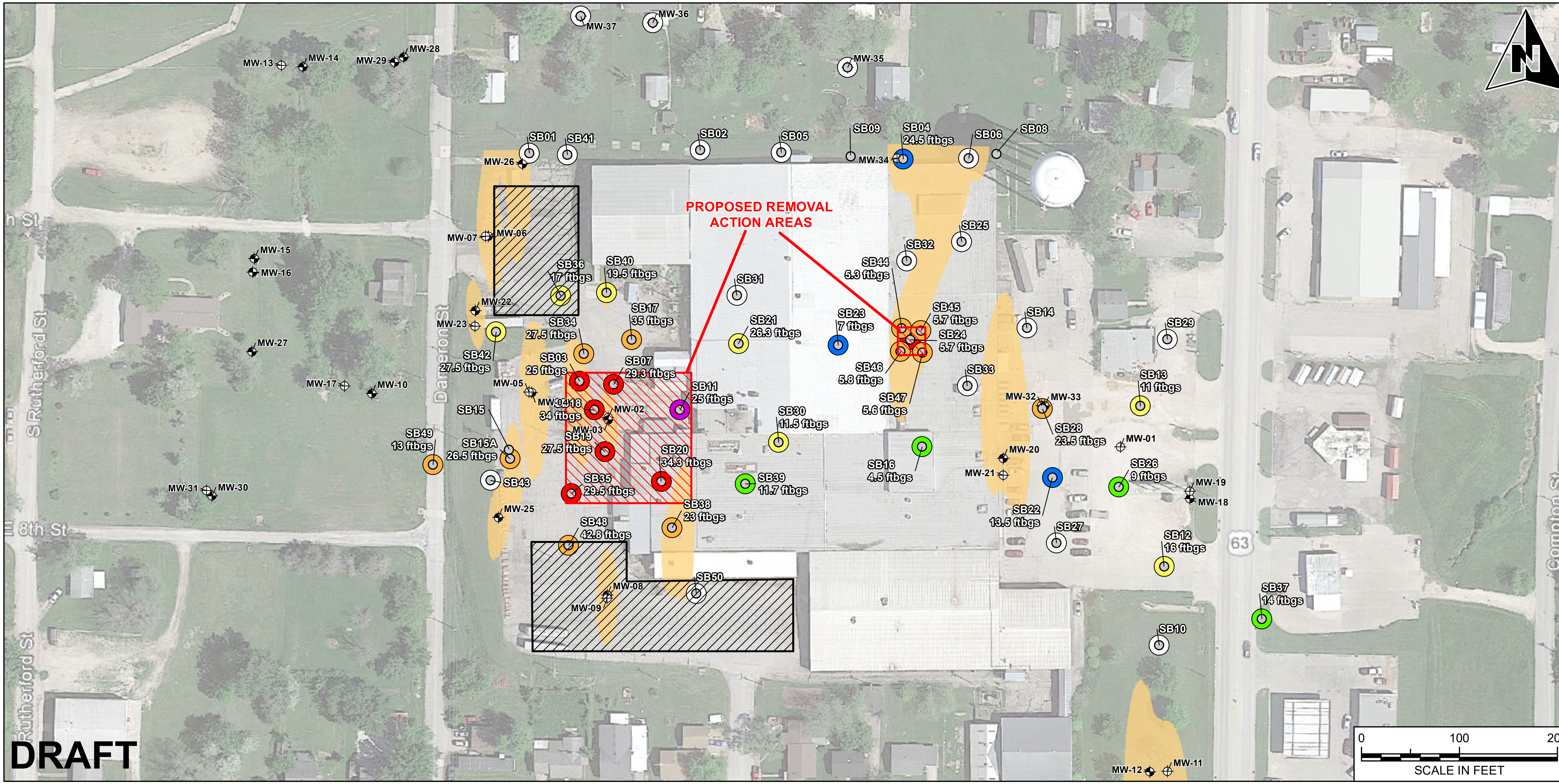
FIGURE
20d

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (OK002101.2017)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 20d TRANSECT D-D_PORTRAIT.mxd 8/30/2018 11:48:00 AM



LEGEND

- DIRECT-PUSH LOCATION (54)
- SHALLOW AQUIFER WELL (17)
- DEEP AQUIFER WELL (19)
- 17,000 SQUARE FOOT AREA PROPOSED FOR REMOVAL ACTION UNDERLAIN BY TCE IN SOIL EXCEEDING 110 mg/kg
- STAGING AREA REQUIRED FOR STOCKPILES, TREATMENT EQUIPMENT, DECONTAMINATION PAD, PARKING, ETC.
- SAND LENSES GREATER THAN 0.5 FEET THICK

MAXIMUM TCE DETECTIONS IN SOIL (mg/kg)

NON-DETECT | MDL - 0.1 | >0.1 - 1 | >1 - 10 | >10 - 100 | >100 - 1,000 | >1,000

NOTES

1) TCE - TRICHLOROETHENE

2) mg/kg - MILLIGRAMS PER KILOGRAM

3) DEPTHS OF SAND LENSES VARY ACROSS THE SITE AND ARE PRESENTED IN GREATER DETAIL ON THE STRATIGRAPHIC FLUX TRANSECTS PROVIDED AS FIGURES 20a THROUGH 20d.

4) DIRECT-PUSH SOIL BORINGS SB01 THROUGH SB43 ADVANCED IN OCTOBER/NOVEMBER 2017 AND SB44 THROUGH SB50 ADVANCED IN FEBRUARY 2018.

5) LOCATION SB43 WAS ONLY ADVANCED TO 6 FEET BELOW GROUND SURFACE DUE TO UNCERTAINTY OF PROXIMITY TO NEARBY SUBSURFACE UTILITY.

6) MONITORING WELLS MW-32, MW-33, AND MW-34 INSTALLED IN FEBRUARY 2018. MONITORING WELLS MW-35, MW-36, AND MW-37 INSTALLED IN JULY 2019.

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MACON, MISSOURI

TARGETED SOURCE REMOVAL AREAS AND STRATIGRAPHIC TRANSPORT ZONES

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FIGURE **21**

City: NEWTOWN Div/Group: ENV Created By: S. LAMONTE Last Saved By: slamonte TOASTMASTER MACON SITE (OK002101.2017)
G:\APROJECT\Spectrum Brands\GIS\MXDs\EECA REPORT FIGS\FIG 21 TREATMENT AREAS AND TRANSPORT ZONES.mxd 7/24/2020 9:49:01 AM

APPENDIX A

City of Macon, MO Utility Location Maps – Composite, Water, Electric, Gas, Sewer (See attached DVD)

APPENDIX B

Historical Gauging Tables and Analytical Tables/Graphs

Table 3 Historical Groundwater Sample Analytical Results with Graphs 1992 to 2011 (Source ERM)

Table 4 Historical Surface Water Sample Analytical Results with Graphs 2004-2011 (Source ERM)

Table 5 Temporary Piezometer Groundwater Sample Analytical Results 2011 (Source ERM)

Table 6 Groundwater Quality Parameters June 2011 (Source ERM)

(See attached DVD)

APPENDIX C

TCE Analytical Results for Sub-slab Soil Gas Samples and Survey Data August 2016 – ERM (See attached DVD)

APPENDIX D

Boring and Monitoring Well Logs

D1 1992-2011 Boring Logs

D2 1992-2011 Monitoring Well Construction Details

D3 2017-2019 Boring Logs

D4 2017-2019 Monitoring Well Construction Details

D5 1996-2019 MDNR Boring and Well Certification Records

(See attached DVD)

APPENDIX E

Udden-Wentworth Based Soil Description Standard Operating Procedure (See attached DVD)

APPENDIX F

Laboratory Analytical Reports

F1 Cascade On-site Mobile Laboratory Reports (Soil and Grab Groundwater)

F2 Alpha-Omega Geotech Laboratory - Sieve, Hydrometer, and Shelby Tube Analysis

F3 Pace Analytical Laboratory Report - Total Organic Carbon in Soil

F4 Pace Analytical Laboratory Reports (Groundwater Monitoring February 20, 2018)

F5 Pace Analytical Laboratory Reports (Soil from Borings February 20, 2018)

F6 Pace Analytical Laboratory Reports (Groundwater Monitoring July - August 2019)

F7 Pace Analytical Laboratory Reports (Soil from Borings July 2019) F

8 Pace Analytical Laboratory Reports (Investigative Derived Waste) F9

Data Validation Checklists (2017 – 2019)

(See attached DVD)

APPENDIX G

Groundwater Data Tables

G1 Historical Groundwater Elevations 2010 - 2019

G2 Historical Analytical Results for CVOCs in Groundwater from Monitoring Wells 2011 – 2019

(See attached DVD)

APPENDIX H

Site Survey

H1 2016 ERM Survey VI and Soil Gas Borings

H2 2017-2018 EE/CA Investigation Survey Data for Soil Boring and Monitoring Well Locations and Elevations

H3 2019 EE/CA Investigation Survey Data for Monitoring Well Locations and Elevations
(See attached DVD)

APPENDIX I

Hydraulic Conductivity and Hydrofacies Data

HydroGeoSieve XL Estimated Hydraulic Conductivity Results

(See attached DVD)

APPENDIX J

Soil to Equivalent Groundwater Conversion Calculations and Results

J1 Soil to Equivalent Groundwater Conversion Calculations

J2 Soil to Equivalent Groundwater Conversion Results

(See attached DVD)

APPENDIX K

Waterloo$^{APS\ TM}$ EC and HPT Logs

(See attached DVD)

APPENDIX L

Streamlined Risk Evaluation

APPENDIX M

Costing Summary Sheets

Sheet M1 Regulatory Interaction & PM

Sheet M2 Thermal Remediation

Sheet M3 Excavation

Sheet M4 In-situ Stabilization

Sheet M5 Post Remediation Monitoring

(See attached DVD)

APPENDIX N

Monitoring Natural Attenuation Program

APPENDIX O

Table 1 Residential Indoor Air, Sub-Slab Vapor, & Ambient Air Sampling Summary of Detected Site-Related Volatile Organic Compounds (VOCs) – All Sampling Events (Prepared by ERM) (See attached DVD)

APPENDIX P

Investigation Derived Waste

P1 Waste Determination Correspondence

P2 IDW Analytical Summary Tables

P3 IDW Regulatory Submittals

(See attached DVD)

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