



Current Human Exposures Under Control
Environmental Indicator Report
(RCRA-05-2010-0012)

Former Tecumseh Products Company Site
Tecumseh, Michigan

September 2011



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*Prepared For
Tecumseh Products Company*

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Final

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Table of Contents

Executive Summary	v
1. Introduction.....	1-1
1.1 Site Description.....	1-1
1.2 Purpose and Scope	1-1
2. Project Background	2-1
2.1 Site Operations	2-1
2.2 Summary of Site Investigation Activities	2-2
2.3 Constituents of Concern.....	2-3
3. Site Setting	3-1
3.1 Site Location and Description.....	3-1
3.2 Geology.....	3-1
3.3 Hydrogeology.....	3-2
4. Groundwater	4-1
4.1 Risk-Based Screening Levels for Groundwater	4-1
4.2 Evaluation of Groundwater Data	4-1
4.3 Relevant Exposure Pathways	4-2
4.4 Evaluation of Current Groundwater Use	4-2
4.4.1 Public Water Supply Well Survey	4-2
4.4.2 2009 Private Well Survey	4-3
4.4.3 Private Water Supply Well Testing	4-3
4.4.4 Groundwater Use Ordinance and 2011 Private Well Survey	4-4
4.5 Potential Receptors	4-5
4.5.1 Residents and Workers.....	4-5
4.5.2 Day-Care.....	4-5
4.5.3 Food/Agricultural	4-5
4.6 Current Human Exposure	4-6
5. Indoor Air	5-1
5.1 Risk-Based Screening Levels for Indoor Air	5-1
5.1.1 Current Regulation	5-1

5.1.2	Current Vapor Intrusion Guidance	5-2
5.1.3	Background Indoor Air Concentrations	5-3
5.1.4	Indoor Air Screening Criteria.....	5-3
5.1.5	Groundwater Screening Levels.....	5-4
5.1.6	Soil Gas Screening Levels.....	5-4
5.2	On-Site Indoor Air	5-5
5.2.1	Evaluation of Soil Data Relative to Part 201 SVIAC	5-5
5.2.2	Evaluation of Groundwater Data Relative to Part 201 GVIAIC and GWSLs.....	5-5
5.2.3	Evaluation of On-Site Sub-Slab Soil Gas Data	5-6
5.2.4	Evaluation of On-Site Indoor Air Data	5-6
5.2.5	Potential On-Site Receptors	5-6
5.2.6	Current Human Exposure to Affected Indoor Air by On-Site Workers	5-7
5.3	Off-Site Non-Residential Properties	5-8
5.3.1	Evaluation of Groundwater Data Relative to Part 201 GVIAIC and GWSLs.....	5-8
5.3.2	Evaluation of Off-Site Soil Gas Data.....	5-9
5.3.3	Potential Off-Site Receptors at Non-Residential Properties.....	5-9
5.3.4	Current Human Exposure to Affected Indoor Air at Off-Site Non-Residential Properties.....	5-10
5.4	Residential Properties.....	5-11
5.4.1	Perimeter and Off-Site Groundwater Data.....	5-11
5.4.2	Off-Site Soil Gas Data	5-12
5.4.3	Off-Site Indoor Air Data.....	5-13
5.4.4	Potential Off-Site Receptors at Residential Properties.....	5-13
5.4.5	Current Human Exposure to Affected Indoor Air by Off-Site Residents...	5-14
6.	Surface Soil	6-1
6.1	Risk-Based Screening Levels for Surface Soil (<2 ft)	6-1
6.2	Evaluation of Surface Soil Data.....	6-1
7.	Surface Water	7-1
7.1	Risk-Based Levels for Screening Levels for Surface Water	7-1
7.2	Evaluation of Surface Water Data.....	7-1
8.	Sediment	8-1
8.1	Risk-Based Screening Levels for Sediment.....	8-1
8.2	Evaluation of Sediment	8-1

9.	Sub-Surface Soil	9-1
9.1	Risk-Based Screening Levels for Sub-Surface Soil (>2 ft)	9-1
9.2	Evaluation of Sub-Surface Soil Data.....	9-1
10.	Outdoor Air.....	10-1
10.1	Risk-Based Screening Levels for Outdoor Air	10-1
10.2	Background Ambient Air Concentrations.....	10-1
10.3	Evaluation of the Potential for “Contamination” in Outdoor Air.....	10-1
11.	References.....	11-1

List of Tables

Table 1	Groundwater and Surface Water Elevations
Table 2	Summary of Detected Volatile Organic Compounds at Source Area Grab Groundwater Sample Locations
Table 3	Summary of Detected Volatile Organic Compounds at Perimeter and Off-Site Grab Groundwater Sample Locations
Table 4	Summary of Detected Volatile Organic Compounds in Monitoring Wells
Table 5	Summary of Chlorinated Volatile Organic Compounds in On-Site Indoor Air
Table 6	Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Table 7	Summary of Chlorinated Volatile Organic Compounds in On-Site Sub-Slab Soil Gas
Table 8	Summary of Chlorinated Volatile Organic Compounds in Off-Site Soil Gas
Table 9	Summary of Chlorinated Volatile Organic Compounds at Storm Water and Surface Water Sample Locations

List of Figures

Figure 1	Site Plan and Vicinity
Figure 2	Site Features
Figure 3	Surface Topography and Sample Locations
Figure 4	Cross Section Location Map
Figure 5	Geologic Cross Section A-A'
Figure 6	Geologic Cross Section B-B'
Figure 7	Geologic Cross Section C-C'
Figure 8	Geologic Cross Section D-D'
Figure 9	Geologic Cross Section E-E'
Figure 10	Geologic Cross Section F-F'

Figure 11	Groundwater Contour Map – July 2011
Figure 12	Extent of VOCs above Part 201 Drinking Water Criteria
Figure 13	Well Survey Results
Figure 14	Extent of VOCs above GWSLs in Shallow Groundwater

List of Appendices

Appendix A	List of Source Documents for EI Report Data
Appendix B	Data Tables and Figures from Phase II ESA
Appendix C	Groundwater Use Ordinance
Appendix D	2011 Well Survey Documentation
Appendix E	Groundwater-Surface Water Flux Calculations

Executive Summary

This Current Human Exposures Under Control Environmental Indicator Report provides supporting documentation for the Documentation of Environmental Indicator Determination – Current Human Exposures Under Control (Form CA725) for the former Tecumseh Products Company Site located at 100 East Patterson Street in Tecumseh, Michigan. This Report is required to be completed by September 29, 2011 under Section VI, Paragraph 13(a) of the RCRA 3008(h) Administrative Order on Consent (AOC), effective March 29, 2010. This Report and the Determination are intended to provide a qualitative screening of current human exposures, and are not intended to provide the sole risk assessment on which final corrective measures are based.

TPC began manufacture and storage operations at the site in the 1930s. By June 2008, when manufacturing operations ceased at the site, TPC operations focused on the production and reconditioning of compressors and condensing units for refrigeration and air conditioning units. Solvents containing volatile organic compounds (VOCs), particularly chlorinated VOCs (CVOCs), were used for parts degreasing during site operations.

In 2008, a Phase I Environmental Site Assessment (ESA) was conducted as part of the sale of the property. The Phase I ESA Report recommended that a Phase II Subsurface Investigation be conducted to address the recognized environmental conditions identified in the Phase I ESA. A Phase II ESA was performed between December 2008 and January 2009. A review of the data collected during the Phase II ESA identified CVOCs as the primary constituents of concern at the site.

Following receipt of the Draft Phase II ESA in February 2009, TPC retained RMT, Inc., now TRC Environmental Corporation, to investigate soil and groundwater conditions at the site and surrounding area. In September 2009, a Current Conditions Report (CCR) was submitted to the USEPA for review and on March 29, 2010 the RCRA 3008(h) Administrative Order on Consent (RCRA-05-2010-0012) for the Site (MID-005-049-440) was executed. Since that time TPC has been working cooperatively with USEPA to complete investigation activities and remedial activities pursuant to Section VI, Work to be Performed, of the AOC. An evaluation of data collected during these activities and work performed has found the following:

- n Groundwater – Concentrations of VOCs in groundwater are above risk-based screening levels for drinking water. Therefore the ingestion of affected groundwater is a relevant exposure pathway. An extensive well survey was conducted in and around the area of affected water. Groundwater in the vicinity of the site that is used as a drinking water source is tested regularly and is not affected. At present, the ingestion of affected

groundwater migration pathway is not complete. A Groundwater Use Ordinance which prohibits new and existing private water wells in the vicinity of affected groundwater was passed by the City of Tecumseh in June 2011. Current human exposure to affected groundwater is under control.

- n Indoor Air – Current regulation regarding risk-based screening levels for indoor air include OSHA permissible exposure limits for occupational settings and generic Michigan Part 201 Soil and Groundwater Volatilization to Indoor Air Inhalation Criteria. State and federal agencies supplement these regulations with vapor intrusion guidance to assess risk to indoor air.

There is a high degree of variability in the soil gas attenuation factors recommended for the calculation of soil gas screening criteria. During this period of uncertainty, TPC has undertaken significant effort to understand the current state of science in this rapidly developing field and has employed a combination of conservative risk assessment procedures and aggressive mitigation strategies to address the potential for vapor intrusion.

- On-Site Indoor Air – Concentrations of CVOCs in on-site indoor air are below 1-percent of OSHA permissible exposure limits, and within the USEPA acceptable risk range of 1e-04 to 1e-06 for a long-term, non-residential exposure scenario. The site is currently occupied by approximately 30 TPC employees who will be relocated to a new facility by the end of November 2011 and by on-site security. A sub-slab depressurization/ventilation (SSDV) system is scheduled to be installed in S-Building which houses on-site security in October 2011. Other workers, *i.e.*, persons associated with the current owner, delivery personnel, potential lessees, contractors and consultants may also occupy the building periodically. The magnitude and duration of current exposure to on-site affected indoor air is limited. Current human exposure to on-site indoor air is under control.
- Off-Site Non-Residential Indoor Air – In the vicinity of off-site non-residential properties, concentrations of CVOCs in soil gas are below OSHA permissible exposure limits for indoor air. Concentrations of CVOCs exceeded non-residential SGSLs at two locations (SG-01 and SG-02) east of the site and downgradient of the southern source area. However, average soil gas concentrations at these locations are within the USEPA acceptable risk range of 1e-04 to 1e-06 for a long-term, non-residential exposure scenario. In May 2011, a permeable reactive barrier was installed along the downgradient perimeter of the site to eliminate the potential vapor intrusion pathway by treating shallow-CVOC affected groundwater before it migrates off-site. Current human exposure to affected indoor air by off-site workers is under control.
- Off-Site Residential Indoor Air – The most conservative residential soil gas screening levels (calculated using an attenuation factor of 0.1) indicate that the inhalation of affected indoor air may be a relevant exposure pathway east of the site. There are

five residential properties located in this area. The three residential properties closest to the site have crawlspaces which flood frequently with surface water. This surface water and the associated saturated, low-permeability surface soil create a barrier through which VOCs do not readily migrate. TPC has obtained an access agreement to collect crawlspace air samples in order to confirm that the inhalation of affected indoor air migration pathway is not complete at these locations. At the two remaining residential properties, SSDV systems are scheduled to be installed in October 2011. The duration of exposure at these locations is limited. Additionally, in May 2011, a permeable reactive barrier was installed along the downgradient perimeter of the site to eliminate the potential vapor intrusion pathway by treating shallow-CVOC affected groundwater before it migrates off-site. Current human exposure to affected indoor air by off-site residents is under control.

- n Surface Soil – Concentrations of VOCs in on-site soil are below risk-based screening levels. Therefore current human exposure to surface and subsurface soil is under control.
- n Surface water – There is no on-site surface water; however the River Raisin located downgradient of the site is a discharge feature for storm water and groundwater. Concentrations of VOCs in surface water downgradient of the site are below risk-based screening levels. Current human exposure to surface water is under control.
- n Sediment – There is no mechanism for off-site sediment to be affected above risk-based screening levels. Current human exposure to sediment is under control.
- n Subsurface Soil – Concentrations of VOCs in on-site soil are below risk-based screening levels. Therefore current human exposure to surface and subsurface soil is under control.
- n Outdoor Air – Concentrations of VOCs in outdoor air were not measured directly. However source area indoor air concentrations are expected to be diluted significantly as VOCs migrate outdoors. Outdoor air is not expected to be affected above risk-based screening levels. Current human exposure to outdoor air is under control.

These conclusions are documented in the Documentation of Environmental Indicator Determination – Current Human Exposures Under Control (Determination) for the site. This Current Human Exposures Under Control Environmental Indicator Report includes text, tables, and figures which summarize relevant site conditions, environmental work related to the Determination, and applicable data collected in support of the Determination.

Section 1

Introduction

This Current Human Exposures Under Control Environmental Indicator Report (Report) provides supporting documentation for Form CA725, Documentation of Environmental Indicator Determination – Current Human Exposures Under Control (Determination), for the former Tecumseh Products Company Site located in Tecumseh, Michigan. The Report is required under Section VI, Paragraph 13(a) of the RCRA 3008(h) Administrative Order on Consent (AOC), effective March 29, 2010. This Report has been prepared by TRC Environmental Corporation (TRC)¹ on behalf of the Respondent, Tecumseh Products Company (TPC). The United States Environmental Protection Agency (USEPA) facility identification number for the site is MID-005-049-440 and the AOC identification number is RCRA-05-2010-0012.

1.1 Site Description

The former TPC Site is located at 100 East Patterson Street in Tecumseh, Michigan (Figure 1). The site is comprised of two parcels which occupy a total of approximately 50.5 acres. Parcel number 325-0241-00 occupies 47.1 acres and is located along the northern portion of the site. This parcel includes an expanse of interconnected buildings/building additions that occupy approximately 750,000 square feet. Parcel Number 325-0250-00 is a 3.4-acre grassy parcel located outside of the southern site fence.

1.2 Purpose and Scope

As noted above, this Report is required under the AOC. Paragraph 13(a) of the AOC requires that TPC prepare an Environmental Indicators Report demonstrating that: “All current human exposures to contamination at or from the facility are under control. That is, significant or unacceptable exposures do not exist for all media known or reasonably suspected to be contaminated with hazardous wastes or hazardous constituents above risk-based levels for which there are complete pathways between contamination and human receptors.”

As required under Paragraph 14 of the AOC, TPC completed the following in order to prepare and provide this Report and Demonstration:

- n “Determine appropriate risk screening criteria under current use scenarios and provide the basis and justification for the use of these criteria.”
- n “Determine any current unacceptable risks to human health and the environment and describe why other identified risks are acceptable.”

¹ On June 6, 2011 TRC acquired the Environmental Business Unit of RMT, Inc. For purposes of this and future reports, references to TRC are inclusive of RMT, Inc., prior to its acquisition by TRC.

- n “Control any unacceptable current human exposures that Tecumseh Products identifies. This includes performing any corrective actions or other response measures (“corrective measures”) necessary to control current human exposures to contamination to within acceptable risk levels.”
- n “Prepare a report, either prior to or as part of the Environmental Indicators Report, that describes and justifies any interim actions performed to meet the requirements of Section VI, Work to Be Performed, including sampling documentation, construction completion documentation and/or confirmatory sampling results.”

As noted in the Determination and required under the AOC, a positive Current Human Exposures Under Control Environmental Indicators (EI) Determination indicates that there are no “unacceptable” human exposures to “contamination” (*i.e.*, contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions. The purpose of this Report is to support the Determination by providing a summary of relevant site conditions, environmental work related to the Determination, and applicable data collected in support of the Determination. As required in Paragraph 10 of the AOC, Work related to this Determination was conducted in compliance with RCRA and other applicable federal and state laws, and consistent with relevant USEPA guidance documents. Among other cited authority sources, the “Documentation of Environmental Indicator Determination Guidance” which was obtained via the EPA website at www.epa.gov/osw/hazard/correctiveaction/eis/ provides for the use of the Determination Form CA725. In addition to this Report, TPC has also prepared and submitted, concurrently with this Report, a draft of the Determination Form CA725. This Human Exposures Environmental Indicators evaluation is intended to be a **qualitative** screening of current human exposures, and is not intended to provide the sole risk assessment on which final corrective measures are based.

The structure of this Report is outlined below. Section 2 provides the project background including an overview of site operations, investigation activities, and the constituents of concern. Section 3 provides an overview of site geology and hydrogeology relevant to the movement of constituents of concern in the environment. Sections 4 through 10 evaluate each potentially affected media. As defined in the USEPA Current Human Exposures Under Control EI Determination Form, media are considered “contaminated” if contaminants are present in concentrations in excess of risk-based screening levels reflective of current land - and groundwater-use conditions. For “contaminated” media, relevant exposure pathways to human receptors are evaluated in which risk-based screening levels are exceeded. For example, for groundwater affected above drinking water criteria but not above groundwater contact criteria, ingestion is a relevant exposure pathway, but direct contact with groundwater is not a relevant risk-based exposure pathway. Finally, for each complete or potentially complete exposure pathway, the magnitude and duration of exposure is evaluated to determine if current human exposures are under control.

Section 2

Project Background

2.1 Site Operations

The former TPC site is occupied by a series of interconnected buildings/building additions that occupy approximately 750,000 square feet (main building). There are other buildings on site, but they are significantly smaller in size, and were typically not utilized for manufacturing operations. Letter designations, *i.e.*, Area K, Q-Building, etc., for each building/building addition are shown on Figure 2.

The oldest portions of the main building, referred to as Area H and Area B (Figure 2), were constructed around 1908, prior to TPC's ownership of the site. These areas are located in the northern portion of the site; subsequent building expansions and additions have connected these areas and expanded the main building to the south and east.

TPC began manufacturing and storage operations at the site in the 1930s. Products manufactured by TPC included automotive parts, refrigeration systems, small tools, and toys. By June 2008, when manufacturing operations ceased at the site, TPC operations focused on the production and reconditioning of compressors and condensing units for refrigeration and air conditioning units. During these processes solvents composed primarily of trichloroethene and later 1,1,1-trichloroethane were used for parts degreasing. TPC records indicate that the use of these solvents was discontinued in March 1992.

Since June 2008, the site has been routinely occupied by on-site security (S-building) and approximately 30 TPC employees in the office and engineering portions of the main building (Areas H and J). The site was purchased by Tecumseh Bakery, LLC, a holding company for Consolidated Biscuit Company (CBC), in December 2009. When CBC was purchased by Healthside Food Solutions, in April 2010, Tecumseh Bakery, LLC, became an independent entity, and plans to occupy the site for bakery operations were terminated.

At present the bulk of the facility is unoccupied. Currently Areas H and J, located in the northwest portion of the site are occupied by TPC research and engineering staff. These staff remained on site following the purchase of the site through a temporary lease agreement. TPC purchased a new research and testing facility in November 2010. Relocation of equipment and staff is underway and is expected to be complete in November 2011. Following the relocation of TPC staff, the only personnel on site daily will be on-site security. Other workers have been observed accessing the property with the apparent consent of Tecumseh Bakery, LLC (the property owner) or PatJim Holdings (the tenant of the entire facility), both of which are under

the common control of James Appold. For example, Mr. Appold has apparently allowed Dave Roberts to store equipment in portions of the building, and TPC and TRC have observed Mr. Roberts and persons apparently working for Mr. Roberts in the building. TPC has been advised that Dave Roberts is a prospective purchaser, and Lenawee Stamping is a prospective tenant. However, as of September 29, 2011, TPC has not received formal notice of a transfer to an operating business to the facility, as required under the Purchase Agreement for the site.

2.2 Summary of Site Investigation Activities

In 2008, a Phase I Environmental Site Assessment (ESA) was conducted by Atwell-Hicks, LLC as part of the sale of the approximately 750,000 square foot manufacturing facility and associated property to CBC. The Phase I ESA Report recommended that a Phase II Subsurface Investigation be conducted to address the recognized environmental conditions identified in the Phase I ESA. A Phase II ESA was performed by ATC Environmental Consultants (ATC) on behalf of CBC between December 2008 and January 2009. A copy of the Draft Limited Phase II ESA Report was provided to TPC in February 2009. The Phase II ESA Report was finalized on September 4, 2009.

Following receipt of the Draft Phase II ESA, TPC retained RMT, Inc. (RMT) to investigate soil and groundwater conditions at the site and surrounding area. Between February and September 2009, TPC performed on-site and off-site investigations to define the extent of the chlorinated volatile organic compounds (CVOCs) in soil and groundwater. In September 2009, RMT submitted a Current Conditions Report (CCR) to the USEPA and the Michigan Department of Environmental Quality (MDEQ). The CCR described and summarized the physical setting of the site, the historical operations, sampling data, potentially complete exposure pathways, and voluntary remedial activities undertaken by TPC (RMT, 2009).

During a USEPA site visit conducted on October 27, 2009, Michelle Mullin of USEPA provided feedback on the CCR, and TPC agreed to conduct an additional off-site investigation to address the remaining data gaps related to the off-site migration of volatile organic compounds (VOCs). The findings of these investigation activities were submitted to USEPA on February 12, 2010 in a Technical Memorandum titled "Status Update – Characterization of Volatile Organic Compounds in Groundwater, Former Tecumseh Products Company Site, Tecumseh, Michigan" (RMT, 2010a).

On March 29, 2010 the RCRA 3008(h) Administrative Order on Consent (RCRA-05-2010-0012) for the site (MID-005-049-440) was executed. Since that time TPC has been working cooperatively with USEPA to complete investigation activities and remedial activities pursuant to Section VI, Work to be Performed, of the AOC. These activities have been summarized in a series of documents, which were previously submitted to USEPA for review.

This Report includes text, tables, and figures which concisely summarize relevant data collected during site investigation activities. The original source of these data is a series of documents which are listed, with a brief description of contents, in Appendix A. Recently collected data, namely soil gas data from samples collected in June 2011 and groundwater data from the July 2011 monitoring event are also included. Sample locations are illustrated on Figure 3.

2.3 Constituents of Concern

Based on review of historical site use and the Phase II ESA (ATC, 2009), VOCs, particularly CVOCs were identified as constituents of concern (COCs) at the site. In particular the solvents trichloroethene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA) were used for degreasing operations. These compounds and their breakdown products: 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride have been identified as the primary COCs in on-site soil and/or groundwater. In addition to VOCs, initial investigation activities included testing for 1,4-dioxane a compound commonly used to stabilize 1,1,1-TCA. 1,4-dioxane was detected at only two on-site locations, and was subsequently eliminated as a potential COC (RMT 2009).

Data tables and figures from the Phase II ESA are included in Appendix B. Each potentially affected media is evaluated to determine if COCs are present above risk-based screening levels for current human exposures.

Section 3

Site Setting

3.1 Site Location and Description

The former TPC site is located at 100 East Patterson Street in Tecumseh, Michigan (Figure 1). The site is comprised of two parcels which occupy a total of approximately 50.5 acres. Parcel number 325-0241-00 occupies 47.1 acres and is located along the northern portion of the site. This parcel includes an expanse of interconnected buildings/building additions that occupy approximately 750,000 square feet (Figure 2). Parcel number 325-0250-00 is a 3.4-acre grass-covered area located outside of the southern site fence.

3.2 Geology

The site is located near the southeast rim of the Michigan Basin. Topographically, the region is relatively flat and characterized by glaciofluvial sediments at the surface (Figure 1). The geology consists of a series of unconsolidated Holocene and Pleistocene age glacial deposits, predominantly gravel and sand with areas of silt and clay overlying Mississippian age shales. The thickness of the glacial deposits varies from a few feet to over 200 feet thick throughout the region. Local water well logs within one mile of the site indicate bedrock in that area is 150 to 200 feet below ground surface (ft bgs).

TRC evaluated the unconsolidated materials underlying the site through a review of logs from soil borings advanced at the site during field activities conducted by TRC from April 2009 through August 2011. Logs of soil borings and monitoring wells installed during the investigation activities were provided to USEPA in previous investigation reports (listed in Appendix A). The documents are also available in the public repository located in Tecumseh City Hall. Geologic cross sections developed from these boring logs illustrate the geology underlying the former TPC site and vicinity. Figure 4 shows the orientation of the cross-section transects (A-A', B-B', C-C', D-D', E-E' and F-F'), while Figures 5 through 10 present the cross sections.

As shown on the cross sections, the site geology generally consists of a surficial silty/sandy clay interval ranging from 3 to 7 feet thick, underlain by unconsolidated fine to coarse sand and gravel. A deep clay layer having a hydraulic conductivity between 1.8×10^{-8} centimeters per second (cm/s) to 1.9×10^{-8} cm/s is present beneath the site (RMT, 2010a). Soil boring data suggests that this second clay layer is continuous across the study area. The elevation of the top of the clay confining unit clay ranges from approximately 745 feet above mean sea level (ft MSL) along the western perimeter of the site to an elevation ranging from approximately

745 ft MSL to 765 ft MSL along the eastern extent of the area affected by VOCs. In the area northeast of the site, an intermediate clay layer is observed between the surficial clay and the deep clay confining unit. The top of this intermediate clay layer ranges from approximately 779 ft MSL to 785 ft MSL, with the observed clay thickness ranging from approximately 1 foot to 6 feet. The intermediate clay layer appears to be continuous in the study area east of Maumee Street and north of Patterson Street. Perched groundwater has consistently been observed in this area during soil boring and monitoring well installation activities. The intermediate clay layer and associated perched groundwater are discontinuous west of Maumee Street and in the south where ground surface elevations approach the elevation of the top of clay.

3.3 Hydrogeology

Data collected from the soil borings and monitoring wells installed during subsurface investigation activities indicate that shallow groundwater typically ranges in depth from 3 to 30 ft bgs within the sand and gravel aquifer. The variation in groundwater depth is largely a result of site topography, which slopes downward to the east, toward the Raisin River. The deep clay unit represents a significant confining layer for vertical groundwater movement into deeper aquifers.

Groundwater elevation data are collected quarterly (Table 1). Each quarter a groundwater contour map is constructed. A groundwater contour map, developed using data from the most recent quarterly sample event, July 2011, is included as Figure 11. The depth to groundwater and the direction of groundwater flow has been generally consistent. Groundwater flow at the TPC site is generally east toward the River Raisin, the nearest body of water located 1,500 to 2,500 feet east of the site. The River Raisin is the regional discharge feature for groundwater beneath the TPC site. A mean horizontal hydraulic gradient of 0.001 was measured across the former TPC site using the July 2011 groundwater elevation data. Data from *in situ* hydraulic conductivity tests indicates that the hydraulic conductivity of the unconfined sand and gravel aquifer ranges from 0.014 to 0.077 cm/s (RMT, 2010d). Assuming a porosity of 0.3, the resultant estimated groundwater flow velocity ranges from 4.7×10^{-5} to 2.6×10^{-4} cm/s (48 to 265 feet per year).

The vertical hydraulic gradient in the upper sand/gravel aquifer during July 2011 was evaluated at nine of the ten nested well pairs (MW-10s/d, MW-12s/d, MW-19s/d, MW-20s/d, MW-24s/d, MW-27s/d, MW-28s/d, MW-29s/d, and MW-30s/d). Because water at MW-14s is perched with an unsaturated zone between MW-14s and MW-14d, the vertical gradient at this nested well pair was not evaluated. At MW-19s/d, MW-24s/d, and MW-28s/d along the western (upgradient) portion of the site, the measured vertical hydraulic was essentially neutral (ranging from -0.004 to 0.000). Northeast of the site the hydraulic gradient varied from downward at MW-29s/d (-0.061) and MW-12s/d (-0.015) to near neutral at MW-30s/d (0.006). At

MW-10s/d, MW-20s/d, and MW-27s/d east/southeast (downgradient) of the site, a downward hydraulic gradient ranging from (-0.16 to -0.68) was measured, with the downward hydraulic gradient increasing to the south. This significant vertical downward gradient in the upper sand/gravel aquifer east/southeast of the site, is the result of the presence of a higher hydraulic conductivity sand and gravel deposit that underlies the sand deposit and a significant change in surface topography.

The surface topography drops steeply downgradient of the southern half of the site from an approximate elevation of 780 ft MSL to an approximate elevation of 750 ft MSL in the wetland area adjacent to the River Raisin. East of the site, in proximity to the change in surface elevation, the horizontal hydraulic gradient increases (Figure 11). The relatively steep drop in groundwater elevation east of the southern portion of the site is illustrated on Cross Section D-D' (Figure 8).

Section 4

Groundwater

4.1 Risk-Based Screening Levels for Groundwater

The generic cleanup criteria specified in the MDEQ Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), also known as Part 201 Criteria are the risk-based screening levels used to evaluate groundwater data. The following Part 201 criteria were used to determine if groundwater is affected above screening levels for human health:

- n Residential Health-Based Drinking Water (DW) Criteria,
- n Non-Residential Health-Based DW Criteria, and
- n Groundwater Contact (GC) Criteria.

4.2 Evaluation of Groundwater Data

Groundwater samples have been collected at soil boring locations and monitoring well locations to determine the horizontal and vertical extent of VOCs in groundwater. Sample locations are shown on Figure 3. Groundwater data collected to date are summarized in Tables 2 through 4. Table 2 provides a Summary of Detected Volatile Organic Compounds at Source Area Grab Groundwater Sample Locations. Table 3 provides a Summary of Detected Volatile Organic Compounds at Perimeter and Off-Site Grab Groundwater Sample Locations, and Table 4 provides a Summary of Detected Volatile Organic Compounds in Monitoring Wells.

The following compounds have been detected above screening levels in groundwater:

- n **Tetrachloroethene (PCE)** has been detected at concentrations above the residential and non-residential DW criterion.
- n **TCE** has been detected at concentrations above the residential and non-residential DW criterion.
- n **1,1-DCE** has been detected at concentrations above the residential and non-residential DW criterion.
- n **cis-1,2-DCE** has been detected at concentrations above the residential and non-residential DW criterion.
- n **trans-1,2-DCE** has been detected at concentrations above the residential and non-residential DW criterion.
- n **Vinyl Chloride** has been detected at concentrations above the residential and non-residential DW criterion.

- n **1,1,1-TCA** has been detected at concentrations above the residential and non-residential DW criterion.
- n **1,1-DCA** has been detected at concentrations above the residential DW criterion.
- n **Ethyl Benzene** has been detected at concentrations above the residential and non-residential DW criterion. Ethyl benzene was only detected above screening levels in a limited area around the southeast perimeter of the site.
- n **Toluene** has been detected at concentrations above the residential and non-residential DW criterion. Toluene was only detected above screening levels in a limited area around the southeast perimeter of the site.
- n **Total Xylenes** have been detected at concentrations above the residential and non-residential DW criterion. Total xylenes were only detected above screening levels in a limited area around the southeast perimeter of the site.
- n **1,4-Dioxane** (a stabilizing agent for degreasing agents containing 1,1,1-TCA) was detected at only two source area locations near area where 1,1,1-TCA was historically used. The concentration of 1,4-dioxane was above the residential DW criterion at one of these locations. 1,4-dioxane was not detected in on-site soil or in any perimeter or off-site groundwater sample locations.

4.3 Relevant Exposure Pathways

VOCs were detected in groundwater above screening levels for ingestion, but not above screening levels for contact. Therefore the ingestion of affected groundwater is the only relevant pathway for groundwater. The horizontal extent of groundwater with concentrations above screening levels for ingestion, *i.e.*, Part 201 DW criteria, is shown on Figure 12.

4.4 Evaluation of Current Groundwater Use

4.4.1 Public Water Supply Well Survey

The City of Tecumseh owns and operates two municipal well fields. One well field is located north of the City of Tecumseh, and is on the north (opposite) side of the River Raisin relative to the TPC site. The second well field (south) is located approximately one-half mile west of the site, west of South Union Street (Figure 1). This well field is hydraulically upgradient of the site, and analytical data from water quality testing routinely performed by the City of Tecumseh indicate that these wells are unaffected by COCs (RMT, 2009). Furthermore, a monitoring well (MW-11s) was installed approximately halfway between the well field and the site and near the edge of the wellhead protection area. No VOCs have been detected in samples collected from monitoring well MW-11s (Table 4). Groundwater elevation data does not indicate that

drawdown associated with the municipal well field has affected the horizontal groundwater flow direction (Table 1 and Figure 11).

4.4.2 2009 Private Well Survey

In 2009, RMT conducted a private well survey to determine whether potentially affected off-site groundwater was used as potable water or for other uses. The survey area extended from Pearl Street west of the site to the River Raisin in the east, and from Russell Road south of the site to Pottawatamie Street north of the site. The survey included a search of publicly available water well logs through the MDEQ website (Well Logic System and historical well logs database) and through a Freedom of Information Act request to the Lenawee County Health Department (LCHD). Well logs obtained from the MDEQ or LCHD for wells that may be located within the area described above are included in the Current Conditions Report (RMT, 2009). RMT also worked with the City of Tecumseh to identify properties that do not use municipal water (*i.e.*, are occupied, but are not receiving a water bill from the City of Tecumseh).

In 2009 and 2010, Notices of Off-Site Migration (NOMs) were sent to potentially affected property owners (Figure 13). Each NOM requested that property owners with private wells contact TPC to arrange for their well to be tested at no cost to them. A representative from TPC and RMT hand delivered NOMs to the owners of the properties not connected to city water in order to personally verify the presence of a private well (or not) and to request permission to collect a sample for analysis. Of the properties receiving NOMs, one non-potable (irrigation) supply well and five potable water supply wells were identified. The non-potable (irrigation) well (509 S. Maumee Street) and one of the five potable water supply wells (610 Mohawk Street) were determined to be relatively shallow (*e.g.*, less than 25 feet bgs). The four remaining potable wells were deeper (*e.g.*, greater than 50 feet). No well logs were available for the two shallow wells or for one of the deeper wells (307 Kilbuck Street). Well logs for the other three deeper wells are included in Current Conditions Report.

4.4.3 Private Water Supply Well Testing

During the 2009 private well survey, described above, six private water supply wells were identified in the vicinity of affected groundwater (one irrigation and five potable). In order to verify whether or not these wells were affected by off-site migration of affected groundwater, TPC collected water samples from each well to be analyzed for VOCs by USEPA Method 524.2.

Results indicated that two shallow water wells, located at 610 Mohawk Street and at 509 S. Maumee Street, were affected by VOCs (RMT, 2009). The well at 610 Mohawk

Street (reportedly approximately 18 feet deep) was used as a potable water supply well. No well log was available for this well. The property owner was notified immediately after the data were received from the analytical laboratory and was supplied with bottled water. Additionally, TPC made arrangements with the property owner to connect him to the municipal water supply. In May 2009, the property at 610 Mohawk was connected to the municipal water supply and the shallow water well at the property was decommissioned. The property at 509 S. Maumee Street was connected to the municipal water supply prior to the 2009 well survey; the private supply well was used as a non-potable supply well for on-site irrigation. The property owner was notified by TPC on August 25, 2009. TPC worked with the property owner to convert outdoor irrigation operations to municipal water. The well at 509 S. Maumee Street was decommissioned in November 2010.

Well logs from the potable wells within the horizontal extent of affected groundwater indicate that the wells are screened in a deeper water bearing unit, underneath a sufficiently thick low permeability clay, and are not withdrawing groundwater from the affected aquifer. These wells are included in the quarterly monitoring program.

4.4.4 Groundwater Use Ordinance and 2011 Private Well Survey

In 2010 and 2011, the City of Tecumseh worked with the MDEQ and TPC to prepare a Groundwater Use Ordinance. The City of Tecumseh passed the Groundwater Use Ordinance on June 6, 2011. This ordinance restricts groundwater use in the area near the site. Specifically, the restricted area includes the area of affected groundwater, as well as an approximately one block buffer zone around the area of affected groundwater (Figure 13). A total of 272 parcels are included in the restricted zone. Groundwater use is restricted as follows:

- The installation, development, maintenance, and use of private water wells is prohibited;
- Connection to the municipal water supply is required; and
- Existing private water wells must be abandoned.

A copy of the Groundwater Use Ordinance is included as Appendix C.

In conjunction with preparation of the Groundwater Use Ordinance, TPC agreed to identify and abandon, with owner consent, private wells within the restricted zone. On March 25, 2011, RMT, on behalf of TPC, mailed a letter to each of the property owners affected by the Ordinance. The letters included a well survey card. On May 12, 2011, June 30, 2011, and August 8, 2011 follow-up letters with additional copies of the well survey cards were sent to property owners which had not yet responded. During

August and September 2011, TPC also conducted a telephone survey and a door-to-door survey to obtain responses from owners that did not respond to the letter survey. A technical memorandum describing the 2011 private well survey is included as Appendix D.

Well survey results are presented on Figure 13. A total of 24 wells were identified within the restricted area. Seventeen of these wells are not in use; three wells are used as a secondary, outdoor water supply, and four are used as a primary drinking water source. The four wells used as a primary water source, were also identified in the 2009 well survey (307 Kilbuck Street, 607 Mohawk Street, 611 Mohawk Street, and 615 Mohawk Street). As described above these wells are monitored as part of the quarterly monitoring program, and VOCs have not been detected at these locations. TPC is working with the City of Tecumseh and private well owners to help facilitate compliance with the Ordinance.

4.5 Potential Receptors

4.5.1 Residents and Workers

With the exception of four private wells, drinking water in the vicinity of affected groundwater is supplied by the City of Tecumseh's municipal water supply. The municipal water supply and the four private wells used for drinking water are routinely tested for VOCs. VOCs have not been detected at these locations, and TPC has arranged to have all four wells pulled and the four properties connected to the municipal water supply. Therefore the ingestion of affected groundwater by residents or workers is not a complete migration pathway.

4.5.2 Day-Care

The State of Michigan licenses childcare providers, a list of licensed childcare providers is available via the Michigan Department of Health and Human Services website http://www.dleg.state.mi.us/brs_cdc/sr_lfl.asp. There are no licensed childcare providers on-site or within the area of affected groundwater. Therefore, the ingestion of affected groundwater at day-care facilities is not a complete migration pathway.

4.5.3 Food/Agricultural

The private irrigation well located at 509 S. Maumee Street was abandoned in November 2010.

During the 2011 well survey, three new wells were identified that are used for secondary, outdoor uses. Of these wells two are located outside the area of affected groundwater in

the buffer zone. The third well is located at 509 Mohawk Street. This is a non-residential property that is not used for agricultural purposes. The ingestion of food which has had contact with affected groundwater is not a complete migration pathway.

4.6 Current Human Exposure

VOCs were detected in groundwater above screening levels for ingestion, but not above screening levels for contact. Therefore the ingestion of affected groundwater is the only relevant pathway for groundwater. Current groundwater use by potential receptors: residents, workers, day-care facilities, and food were evaluated. **The ingestion of affected groundwater is not a complete migration pathway for any of the receptors evaluated.** Therefore, current human exposure to affected groundwater is under control.

Section 5

Indoor Air

5.1 Risk-Based Screening Levels for Indoor Air

The potential for volatilization to indoor air from multiple environmental media was assessed. Manufacturing operations at the former TPC site were discontinued in 2008, therefore no current on-site activities are a significant source to indoor air. Rather COCs in soil and groundwater may volatilize and migrate into indoor air. Typically groundwater screening levels (GWSLs) and/or soil gas screening levels (SGSLs) for volatilization to indoor air are used to determine whether indoor air is potentially affected above risk-based screening criteria. These groundwater and soil gas screening levels are calculated by applying an attenuation factor to indoor air screening criteria. Alternatively, concentrations in indoor air may be evaluated directly and compared to risk-based screening criteria for indoor air. Direct comparison of indoor air concentrations to risk-based screening criteria may be complicated by the presence of background indoor air concentrations that are near or even above risk-based screening levels.

5.1.1 Current Regulation

On a federal level, the United States Department of Labor, Occupational Safety and Health Administration (OSHA) has published permissible exposure limits (PELs) for COCs in indoor air. OSHA PELs are only applicable for occupational exposures. USEPA has issued draft vapor intrusion guidance, but currently there are no federal regulations which specify risk-based screening levels for residential indoor air.

On a state level, Michigan does not have indoor air screening levels. Part 201 of the Michigan NREPA, as amended March 25, 2011, does provide residential and non-residential soil volatilization to indoor air inhalation criteria (SVIAIC) and groundwater volatilization to indoor air inhalation criteria (GVIAIC) (Michigan Administrative Code R 299.5714 and R 2099.5724). Soil and groundwater concentrations above these Part 201 SVIAIC and GVIAIC may be used to determine that indoor air is potentially affected.

- **Soil:** The current 2002 USEPA OSWER **DRAFT** Guidance for Evaluating the Vapor Intrusion in Indoor Air Migration Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) (2002 USEPA Draft Guidance) states that “Soil sampling and analysis is not currently recommended for assessing whether or not the vapor intrusion pathway is complete. This is because of the large uncertainties associated with measuring concentrations of volatile contaminants

introduced during soil sampling, preservation, and chemical analysis, as well as the uncertainties associated with soil partitioning calculations.”

- **Groundwater:** MDEQ Admin Rule 299.5714(2) provides that the generic GVIAIC shall not apply, and a site specific evaluation of indoor inhalation risks shall be conducted, where any of the following conditions exist:
 - § a structure does not have a concrete block or poured concrete floor and walls; or
 - § the highest water table elevation of a contaminated saturated zone, considering seasonal variation, is within 3 meters of the ground surface; or
 - § a sump is present that is not completely isolated from the surrounding soil by its materials of construction, or there is other direct entry of contaminated groundwater into the basement.

Few, if any, sites meet the requirements under which generic GVIAIC apply. At the former TPC site, groundwater is within 3 meters (10 feet) of ground surface over much of the study area.

Given the limitations of current regulations regarding risk-based screening levels for vapor intrusion, state and federal vapor intrusion guidance was also used to assess the potential for vapor intrusion above risk-based screening criteria.

5.1.2 Current Vapor Intrusion Guidance

The following vapor intrusion guidance documents were considered when developing risk-based screening levels:

- In June 2008, the MDEQ Remediation and Redevelopment Division published a **PEER REVIEW DRAFT** of RRD Operational Memorandum No. 4: Site Characterization and Remediation Verification: Attachment 4 – Soil Gas and Indoor Air (MDEQ Draft Guidance). Criteria and screening levels in this document were calculated as described in the 2009 MDEQ Background Document. MDEQ recommends the use of a generic deep (>5 feet) soil gas attenuation factor of 0.002, a generic sub-slab soil gas attenuation factor of 0.02, and a generic groundwater attenuation factor of 0.001.
- In November 2002, USEPA published the OSWER **DRAFT** Guidance for Evaluating the Vapor Intrusion in Indoor Air Migration Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance) (2002 USEPA Draft Guidance). This document, which focuses on single-family residential properties, recommends a screening process under which site data are first compared to generic screening levels calculated using a deep (>5 feet) soil gas attenuation factor of 0.01, a sub-slab soil gas attenuation factor of 0.1, and a groundwater attenuation factor of 0.001. If

generic screening levels are exceeded and/or if site conditions warrant further evaluation site-specific attenuations factors may be developed.

In 2009, USEPA published a report highlighting the fact that the lack of final guidance impedes efforts to address indoor air risks. As a follow-up to the review, USEPA conducted a review of its 2002 Draft Guidance. This review found that current guidance is lacking, particularly with respect to the evaluation of soil gas data. Final guidance from USEPA is scheduled for release in November 2012.

During this period of uncertainty in state and federal policy, TPC has undertaken significant efforts to understand the current state of the science in this rapidly developing field, and has employed a combination of conservative risk assessment procedures and aggressive mitigation strategies to address the potential vapor intrusion migration pathway.

5.1.3 Background Indoor Air Concentrations

Measureable concentrations of VOCs, including the COCs for the site, are often present in background indoor air samples. In June 2011, USEPA published a study which provided a summary of typical indoor air concentrations in North American residences. VOCs are detected in a significant number of residences where no potential vapor intrusion source is present. Of approximately 2000 background samples collected, 62.5 percent contained detectable concentrations of PCE; and 42.6-percent contained detectable concentrations of TCE. In some cases, background concentrations may be near or even exceed indoor air screening criteria. For example the calculated residential indoor air criterion for PCE is 0.62 parts per billion by volume (ppbv). The 95th-percentile background indoor air concentration for PCE is 1.4 ppbv. Background indoor air concentrations are included in Table 5.

5.1.4 Indoor Air Screening Criteria

According to the 2002 USEPA Draft Guidance and USEPA clarification of guidance related to EI determinations (USEPA 2011b), OSHA will typically take the lead when assessing occupational exposure to affected or potentially affected indoor. OSHA has published PELs for COCs. OSHA PELs, which assume occupational exposure over an eight-hour period (time weighted average), are included in Table 5.

In addition to OSHA PELs, residential and non-residential indoor air screening criteria were calculated in accordance with the 2009 MDEQ Background Document, using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the USEPA at that time (February 2010).

At the request of USEPA, non-residential indoor air screening criteria were revised in May 2010 to reflect a slightly more conservative non-residential exposure frequency (250 days per year) and duration (25 years).

Both OSHA PELs and calculated indoor air screening criteria were considered when assessing indoor air concentrations directly. In addition calculated residential and non-residential indoor air screening criteria were used to calculate GWSLs and SGSLs which were then used to assess the potential for volatilization to indoor air, where indoor air samples were not collected.

5.1.5 Groundwater Screening Levels

Residential and non-residential GWSLs were calculated in accordance with the 2009 MDEQ Background Document using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the USEPA at that time (February 2010). Proposed GWSLs were accepted by the USEPA in a comment letter dated August 24, 2010. These screening levels are included on Tables 2 through 4 which present concentrations of VOCs in groundwater.

5.1.6 Soil Gas Screening Levels

As described above, the evaluation of the risk associated with the volatilization to indoor air migration pathway is a rapidly developing field. Recommendations provided in draft guidance documents are particularly variable with regards to soil gas:

- The 2008 MDEQ Draft Guidance uses a generic deep (>5 feet) soil gas attenuation factor of 0.002 and a generic sub-slab soil gas attenuation factor of 0.02.
- The 2002 USEPA Draft Guidance uses a generic deep (>5 feet) soil gas attenuation factor of 0.01 and a generic sub-slab soil gas attenuation factor of 0.1 for single family residential properties.

In addition to the published, draft, generic attenuation factors, guidance allows for the calculation of site specific attenuation factors. For the former TPC site, a site specific deep soil gas attenuation factor was calculated using the USEPA Johnson Ettinger Model Spreadsheet (v. 3.1). The site-specific soil gas attenuation factor, calculated using the most conservative site geologic conditions observed in the vicinity of affected groundwater, is 0.003.

Finally, TPC also considered SGSLs calculated using a generic attenuation factor of 0.1 as recommended by Project Manager Michelle Mullin of USEPA in a comment letter dated August 24, 2011.

During this period of uncertainty in state and federal policy, TPC has compared soil gas data to SGSLs calculated using a range of attenuation factors. Non-residential sub-slab SGSLs are calculated using an attenuation factor of 0.02. Non-residential deep SGSLs are calculated using a site-specific attenuation factor of 0.003. Residential sub-slab SGSLs are calculated using attenuation factors of 0.02 and 0.1. Residential deep SGSLs are calculated using attenuation factors of 0.003, 0.01, and 0.1.

5.2 On-Site Indoor Air

5.2.1 Evaluation of Soil Data Relative to Part 201 SVIAC

On-site soil data were compared to Part 201 SVIAC (Table 6). Concentrations of TCE in soil exceed non-residential SVIAC at two locations in the northern source area (soil boring locations NS-15 and NS-17), indicating that the volatilization of COCs in soil may affect on-site indoor air. On-site indoor air was evaluated further to determine whether it is affected above indoor air screening criteria.

5.2.2 Evaluation of Groundwater Data Relative to Part 201 GVIAIC and GWSLs

Concentrations of VOCs in on-site groundwater do not exceed Part 201 GVIAIC at any of the locations tested (Tables 2, 3 and 4). However, as noted above, site conditions may limit the applicability of generic GVIAIC.

Groundwater data from the shallow water table or near water table samples were also compared to calculated GWSLs to determine the area over which the groundwater volatilization to indoor air migration pathway is potentially complete. The extent of VOCs in shallow groundwater above GWSLs is depicted on Figure 14.

- **TCE** – Concentrations of TCE exceed the non-residential GWSL over much of the site.
- **cis-1,2-DCE** – Concentrations of cis-DCE exceed the non-residential GWSL in the northern source area at one location (NS-15).
- **Vinyl chloride** - Concentrations of vinyl chloride exceed the GWSL over much of the northern source area (soil boring locations NS-02, NS-03, NS-08, NS-09, NS-10, NS-15 and NS-16).
- **PCE** – Concentrations of PCE exceed the non-residential GWSL at one location (SS-03).

Concentrations of CVOCs in on-site groundwater exceed GWSLs, further indicating that the volatilization from groundwater may affect on-site indoor air. Additional evaluation was conducted.

5.2.3 Evaluation of On-Site Sub-Slab Soil Gas Data

Sub-slab soil gas concentrations were evaluated at 18 sample locations within the main manufacturing building. Sample locations are designated SV-XX, where XX is the sample location number, and shown on Figure 3. Sample results are summarized in Table 7. Concentrations of PCE, TCE, 1,1-DCE, cis-DCE, TCA, 1,1-DCA and 1,2-DCA were detected above sub-slab non-residential SGSLs calculated using an attenuation factor of 0.02 at one or more locations.

5.2.4 Evaluation of On-Site Indoor Air Data

Given the elevated concentrations of COCs in soil, groundwater and sub-slab soil gas, indoor air samples were collected to evaluate risk directly. Indoor sample results are provided in Table 5 (Note: Samples dated February 2, 2010 were collected during a ventilation test. Sample conditions are not representative of current stagnant indoor air conditions). The following provides an assessment of indoor air concentrations relative to indoor air screening levels:

- No CVOCs are present at a concentration greater than 1 percent of their respective OSHA PELs.
- No CVOCs are present at a concentration greater than the short-term (5-year), non-residential indoor air screening criterion.
- TCE was detected above the long-term non-residential indoor air criterion (7.8 ppbv). The highest detected concentration of TCE in indoor air was 19.8 ppbv (IA-02).
- 1,1-DCA was detected above the non-residential indoor air criterion (0.79 ppbv) in three of 19 indoor air samples. The highest detected concentration of 1,1-DCA in indoor air was 1.5 ppbv (IA-15).

5.2.5 Potential On-Site Receptors

Residents

The site is not used for residential purposes. The inhalation of affected indoor air by on-site residents is not a complete migration pathway.

Workers

For current and short-term exposure, indoor sample results indicate that VOCs are not present in indoor air at a concentration greater than 1-percent of their respective OSHA PELs or above indoor air screening criteria calculated using a short-term non-residential exposure scenario. Sample results indicate that TCE

and 1,1-DCA are present in indoor air above indoor air screening criteria calculated using a long-term (25-year) non-residential exposure scenario. At present the site is occupied by on-site security (S-building) and approximately 30 TPC employees. Other workers have been observed accessing the property with the apparent consent of Tecumseh Bakery, LLC (the property owner) or PatJim Holdings (the tenant of the entire facility) both of which are under the common control of James Appold. For example, Mr. Appold has apparently allowed Dave Roberts to store equipment in portions of the building, and TPC and TRC have observed Mr. Roberts and persons apparently working for Mr. Roberts in the building. The inhalation of affected indoor air by on-site workers is a complete migration pathway.

5.2.6 Current Human Exposure to Affected Indoor Air by On-Site Workers

Indoor sample results indicate that TCE and 1,1-DCA are present in on-site indoor air above indoor air screening criteria calculated assuming long-term (25 year) exposure and a 1e-05 risk. At present the site is occupied by on-site security (S-building) and approximately 30 TPC employees. Other workers, *i.e.*, persons associated with Tecumseh Bakery, LLC, delivery personnel, potential lessees, contractors and consultants may also occupy the building periodically.

The maximum detected concentration of TCE in indoor air was 19.8 ppbv, and maximum detected concentration of 1,1-DCA in indoor air was 1.5 ppbv. These concentrations fall within the USEPA acceptable risk range of 1e-04 and 1e-06 for long-term exposure (USEPA, 1997), and are well below OSHA PELs (100,000 ppbv for both TCE and 1,1-DCA).

Furthermore the duration of current exposure is limited. TPC purchased a new research and testing facility in November 2010. Relocation of equipment and TPC staff is underway and is expected to be complete in November 2011. Following the relocation of TPC staff, the only personnel on site daily will be on-site security. TRC is in the process of preparing a Workplan to install a sub-slab depressurization/ventilation system (SSDV) in S-Building, which houses on-site security. This system is expected to be installed in 2011. A mitigation strategy, via HVAC controls, for P-Building the newest portion of the facility and the portion of the facility most likely to be occupied by new owners/occupants (March 25, 2010) and an assessment of the remainder of the facility (June 2010) have been provided to Tecumseh Bakery, LLC. TPC has been advised that Dave Roberts is a prospective purchaser, and Lenawee Stamping is a prospective tenant. However, as of September 29, 2011, TPC has not received formal

notice of a transfer to an operating business to the facility. The magnitude and duration of temporary and occasional occupancy to on-site affected indoor air is therefore limited.

Given indoor air concentrations relative to short-term indoor air screening criteria, exposure to affected on-site air by other workers who occupy the building periodically is not significant. Long-term and potential future exposure to affected on-site indoor air will be addressed as part of the final corrective measures. **Current human exposure to affected indoor air is under control.**

5.3 Off-Site Non-Residential Properties

5.3.1 Evaluation of Groundwater Data Relative to Part 201 GVIAIC and GWSLs

Concentrations of VOCs in groundwater do not exceed Part 201 GVIAIC at any of the locations tested. However, as noted above, site conditions may limit the applicability of generic GVIAIC.

Groundwater data from the shallow water table or near water table samples were also compared to calculated GWSLs to determine the area over which the groundwater volatilization to indoor air migration pathway is potentially complete. The extent of VOCs in shallow groundwater above non-residential GWSLs is depicted on Figure 14.

- **TCE** – Concentrations of TCE exceed the non-residential GWSL along the northern and eastern perimeter of the site and at off-site locations (monitoring wells MW-21 and MW-31) east of the southern source area.
- **cis-1,2-DCE** – Concentrations of cis-1,2-DCE exceed the non-residential GWSL along the northern site perimeter near monitoring wells MW-3s and MW-4s.
- **Vinyl chloride** – Concentrations of vinyl chloride exceed the non-residential GWSL in shallow groundwater along the northern site perimeter at monitoring wells MW-3s and MW-4s. The concentration of vinyl chloride has also exceeded the non-residential GWSL at one off-site location (MW-23).
- **1,1-DCA** – the concentration of 1,1-DCA exceeds the non-residential GWSL at one location along the perimeter of the site (B-52).
- **PCE** – The concentration of PCE exceeds the non-residential GWSL at one location (B-29b).

The area within the extent of VOCs above GWSLs, as depicted on Figure 14, and a 100-foot buffer zone around this area were further evaluated to determine if indoor air is potentially affected by groundwater volatilization to indoor air. Those properties within the area of affected groundwater which are not shaded on Figure 14 are non-residential.

The areas north of the site to Cummins Street and east of the site to the River Raisin are primarily non-residential.

5.3.2 Evaluation of Off-Site Soil Gas Data

Concentrations of COCs in perimeter and off-site soil gas are evaluated quarterly at 16 sample locations. Sample results are summarized in Table 8. These sample locations are distributed throughout the area of affected shallow groundwater, specifically along the downgradient perimeter of the site and in residential areas that may be affected by the off-site migration of CVOCs. Concentrations of CVOCs in soil gas collected at these locations were compared to non-residential deep SGSLs (calculated using the site-specific attenuation factor of 0.003).

Concentrations of COCs exceeded non-residential SGSLs at the following locations:

- At SG-01 concentrations of TCE have exceeded the non-residential SGSL (2,600 ppbv) during five of the six sample events conducted. TCE concentrations at soil gas sample location SG-01 have ranged from 396 ppbv to 32,100 ppbv.
- At SG-02 the concentrations of PCE and TCE exceeded the non-residential SGSLs (690 ppbv and 2,600 ppbv, respectively) during one of the three sample events during which a sample was collected. Concentrations of PCE ranged from <4.0 ppbv to 1,240 ppbv, and concentrations of TCE ranged from <4.0 ppbv to 3,970 ppbv.

5.3.3 Potential Off-Site Receptors at Non-Residential Properties

Residents

Off-site non-residential properties not used for residential purposes. The inhalation of affected indoor air by off-site residents is evaluated in Section 5.4 below.

Day Care Facilities

The State of Michigan licenses childcare providers, a list of licensed childcare providers is available via the Michigan Department of Health and Human Services website http://www.dleg.state.mi.us/brs_cdc/sr_lfl.asp. There are no licensed childcare providers on-site or within the area of affected groundwater. The inhalation of affected indoor air at day-care facilities is not a complete migration pathway.

Workers at Properties North/Northeast of the Site

Soil gas sample results for the area north/northeast of the site are below non-residential SGSLs. In fact, vinyl chloride, the only COC in this area that has been detected above GWSLs in shallow groundwater, has not been detected in any of the soil gas samples collected. The inhalation of affected indoor air by off-site workers is not a complete migration pathway north/northeast of the site.

Workers at Properties East of the Site

Soil gas sample results from soil gas sample locations along the southern half of the eastern perimeter of the site, SG-01 and SG-02, are above non-residential SGSLs. Non-residential properties east of the site may be affected by volatilization to indoor air. The inhalation of affected indoor air by off-site workers is a potentially complete migration pathway.

5.3.4 Current Human Exposure to Affected Indoor Air at Off-Site Non-Residential Properties

As noted above, the inhalation of affected indoor air by off-site workers is a potentially complete migration pathway in the area east of the southern source area. Specifically, soil gas sample results from soil gas sample locations SG-01 and SG-02 are above non-residential SGSLs calculated assuming long-term (25-year) exposure and a risk of 1e-05. Risk associated with the average soil gas concentrations at these locations falls within the USEPA acceptable risk range of 1e-04 and 1e-06 (USEPA, 1997). Furthermore soil gas concentrations at these locations are below the OSHA PELs for indoor air (100,000 ppbv for both PCE and TCE).

Based on the risk assessment provided above, current human exposure to indoor air at off-site non-residential properties is under control. However, TPC has also employed aggressive mitigation strategies to address the potential vapor intrusion migration pathway east of the site. In May 2011, TPC installed a permeable reactive barrier (PRB) along the eastern property boundary in the vicinity of soil gas sample locations SG-01, SG-02, and SG-03. The purpose of the PRB is to eliminate the potential vapor intrusion pathway downgradient of the southern source area by treating shallow CVOC-affected groundwater along the eastern (downgradient) property line before it migrates off site. **Current exposure to affected indoor air by off-site workers is under control.**

5.4 Residential Properties

5.4.1 Perimeter and Off-Site Groundwater Data

Concentrations of VOCs in groundwater do not exceed Part 201 GVIAIC at any of the locations tested. However, as noted above, site conditions may limit the applicability of generic GVIAIC.

Groundwater data from the shallow water table or near water table samples were also compared to calculated GWSLs to determine the area over which the groundwater volatilization to indoor air migration pathway is potentially complete. The extent of VOCs in shallow groundwater above residential GWSLs is depicted on Figure 14.

- **TCE** – Concentrations of TCE exceed the residential GWSL along the northern and eastern perimeter of the site and off-site, east of the southern source area, at monitoring wells MW-21 and MW-31.
- **cis-1,2-DCE** – Concentrations of cis-1,2-DCE exceed the residential GWSL along the northern site perimeter near monitoring wells MW-3s and MW-4s and in the southeast corner of the site near soil boring B-52.
- **Vinyl chloride** – Concentrations of vinyl chloride exceed the residential GWSL in shallow groundwater along the northern site perimeter at monitoring wells MW-3s and MW-4s and at three off-site locations: soil boring B-19 and monitoring well MW-23 northeast of the site, and at monitoring well MW-22 east of the site (note that concentration of vinyl chloride at this location was above the residential GWSL during the first two sample events, but has not exceeded the GWSL during the last six quarterly sample events.)
- **1,1-DCA** – The concentration of 1,1-DCA exceeds the residential GWSL at one location along the perimeter of the site (B-52).
- **PCE** – The concentration of PCE exceeds the residential GWSL at one location (B-29b).

The area within the extent of VOCs above GWSLs, as depicted on Figure 14, and a 100-foot buffer zone around this area were further evaluated to determine if indoor air is potentially affected by groundwater volatilization to indoor air. Those properties within the area of affected groundwater which are shaded on Figure 14 are residential. The area north of Cummins Street is primarily residential. Additional residential properties are located as described below:

- Two residential properties are located north of the site along Ottawa Street between Patterson Street and Cummins Street;

- Three residential properties are located east of the site along South Maumee Street; and
- Two residential properties are located east of the site along Mohawk Street.

5.4.2 Off-Site Soil Gas Data

Concentrations of COCs in perimeter and off-site soil gas are evaluated quarterly at 16 sample locations. Sample results are summarized in Table 8. These sample locations are distributed throughout the area of affected shallow groundwater, specifically along the downgradient perimeter of the site and in residential areas that may be affected by the off-site migration of CVOCs.

Soil gas sample points SG-03, SG-04, SG-08, SG-09, SG-10, SG-11, SG-12, SG-13, SG-14, SG-15 and SG-16 are located in or near residential areas affected by the off-site migration of VOCs in groundwater. As such, soil gas concentrations at these locations were compared to residential SGSLs.

- Concentrations of COCs at residential soil gas sample locations have not exceeded residential SGSLs calculated using a site-specific soil gas attenuation factor of 0.003.
- Concentrations of COCs at residential soil gas sample locations have not exceeded residential SGSLs calculated using the generic soil gas attenuation factor recommended in the 2002 USEPA Draft Guidance (0.01).
- Concentrations of COCs at residential soil gas sample locations have exceeded the most conservative residential SGSLs calculated using the generic soil gas attenuation factor recommended in the August 24, 2010 USEPA Comment Letter (0.1) at two locations:
 - § At SG-03 concentrations of PCE, cis-DCE and 1,1-DCA have the exceeded residential SGSLs calculated using an attenuation factor of 0.1 (6.2 ppbv, 93 ppbv, and 38 ppbv respectively). The concentration of PCE was 6.8 ppbv during the June 2011 sample event. The concentration of cis-DCE was 193 ppbv during the October 2010 sample event, and the concentration of 1,1-DCA was 91.0 ppbv during the October 2010 sample event.
 - § At SG-09 the concentrations of TCE has exceeded the residential SGSL calculated using an attenuation factor of 0.1 (23 ppbv) during four of the five sample events during which a sample was collected. Concentrations of TCE have ranged from 13.9 ppbv to 436 ppbv.

The most conservative residential SGSLs are low enough for 1,2-DCA (2.4 ppbv), PCE (6.2 ppbv), and vinyl chloride (11 ppbv) that the detection limits at some soil gas sample locations exceeded these SGSLs for sample events conducted in 2010. In 2011 alternative

laboratory procedures were implemented to ensure the lowest reasonable detection limits for subsequent sample events.

5.4.3 Off-Site Indoor Air Data

TPC has not collected any indoor air data directly. However on September 13, 2011 USEPA provided data from samples collected by the residents at the two properties located along Mohawk Street. Results are summarized below:

- At 704 Mohawk Street, TCE was detected above the residential indoor air screening criteria (2.3 ppbv) in the basement (31 ppbv) and in the living area (12 ppbv).
- At 610 Mohawk Street, no CVOCs were detected in either the crawl space or the living area.

No information was provided with regard to sampling procedures and quality control, in particular whether the properties were prepared prior to sampling in order to minimize background sources of COCs. Therefore these data cannot be verified with the information available to TPC.

5.4.4 Potential Off-Site Receptors at Residential Properties

Residents at Properties North of the Site

The following soil gas sample locations are near residential properties north of the site: SG-10, SG-11, SG-13 and SG-16. Concentrations of detected COCs in soil gas at these locations have been below all of the SGSLs considered. (Note that concentrations of PCE and TCE have exceeded the most conservative SGSLs at soil gas sample location SG-07 along the northern perimeter of the site. Based on these results, soil gas sample point SG-16 was installed adjacent to the residential properties on Ottawa Street to more directly assess risk in this area. Concentrations of CVOCS at SG-16 are below all of the SGSLs considered.) The inhalation of affected indoor air by off-site residents north of the site is not a complete migration pathway.

Residents at Properties Northeast of the Site

The following soil gas sample locations are near residential properties northeast of the site: SG-12, SG-14, and SG-15. With the exception of one location, during one event (SG-12 in December 2010), water in the sample ports has prevented soil gas sample collection at these locations. No CVOCs were detected at soil gas sample location SG-12 in the December 2010 sample.

Northeast of the site, water in the sample ports is due to perched groundwater above an intermediate clay layer. As shown on Cross Sections A-A', B-B', C-C', E-E', and F-F' (Figures 5, 6, 7, 9, and 10), the intermediate clay layer appears to be continuous east of Maumee Street and north of Patterson Street. Perched groundwater was consistently observed in this area. This perched groundwater and associated clay layer are expected to act as a barrier to the migration of VOCs from affected groundwater (below the intermediate clay) to indoor air. Therefore the inhalation of affected indoor air by off-site residents northeast of the site is not a complete migration pathway.

In addition, vinyl chloride is the only COC in the area northeast of the site that has been detected above GWSLs in shallow groundwater. Vinyl chloride has not been detected in any of the soil gas samples collected, including those along the northern perimeter of the site where vinyl chloride concentrations in shallow groundwater are highest.

Residents at Properties East of the Site

Soil gas sample results from two soil gas sample locations located east of the site, SG-03 and SG-09, in the vicinity of residential properties are above the most conservative SGSLS (calculated using an attenuation factor of 0.1). The inhalation of affected indoor air by off-site residents east of the site is a potentially complete migration pathway.

5.4.5 Current Human Exposure to Affected Indoor Air by Off-Site Residents

As noted above, the inhalation of affected indoor air by off-site residents is a potentially complete migration pathway in the area east of the southern source area. Specifically, soil gas sample results from two soil gas sample locations located in the vicinity of residential properties east of the site, SG-03 and SG-09, are above the most conservative residential SGSLS calculated using a long-term (30-year) risk of 1e-05 (1 in 100,000).

Residential Properties along Mohawk Street

Two residential properties are located on Mohawk Street in the vicinity of soil gas sample location SG-09 (610 Mohawk and 704 Mohawk). TPC received owner consent to install SSDV systems at these locations on March 25, 2011 and conducted an on-site consultation to aid in system design on April 13, 2011. Workplans to install the SSDV systems were submitted to the USEPA for review in May 2011. TPC received comments on these Workplans on August 18, 2011.

Revised Workplans were submitted to USEPA on September 9, 2011. These systems are scheduled to be installed in October 2011.

On September 13, 2011 USEPA provided data from indoor air samples collected by the residents at these locations. The indoor air samples from 610 Mohawk Street were non-detect, while the data from 704 Mohawk Street detected contaminants which may or may not have resulted from contaminated groundwater emanating from the former TPC facility, depending on possible background concentrations and VOC sources from within that house. In any event, regardless of source, TPC has obtained fully executed access agreements with the owners of the houses at 610 and 704 Mohawk Street, to install SSDV systems, and is scheduled to install those systems in October 2011.

Given the limited duration of potential exposure, current human exposure to affected indoor air by residents along Mohawk Street is under control.

Residential Properties along South Maumee Street

Three residential properties are located on Maumee Street in the vicinity of soil gas sample location SG-03. TRC visited these properties (502 Mohawk Street, 505 South Maumee, and 507 South Maumee Street) on May 11, 2011, for the purpose of a site inspection to aid in the design of a possible SSDV system. Two significant features which affect the design, installation and functionality of a SSDV are shared by each of these properties:

- § Each house is constructed over a crawlspace with a dirt floor composed of low permeability soil (based on nearby soil boring data).
- § The crawl spaces frequently hold surface water, regularly flood during storm events, and likely have saturated conditions throughout the year.

The surface water which floods the crawlspaces is expected to create a natural vapor barrier through which VOCs from groundwater do not readily migrate. Because the low permeability dirt floor is routinely saturated, the vapor barrier is expected to be effective even after standing water is removed. Regular flooding of the crawl spaces with surface water suggests that the soil gas to indoor air migration pathway at these houses is not complete; therefore exposure to affected indoor air by residents in the vicinity of SG-03 is under control. TPC worked with USEPA to gain access to these properties in order to collect crawlspace air samples to confirm this assessment. An access agreement for these properties was signed on September 23, 2011. TPC is in the process of

scheduling site preparation and sampling activities with the owners. TPC expects to collect these samples in October 2011.

Groundwater Treatment

Based on the risk assessment provided above, current human exposure to affected indoor air at off-site residential properties is under control. However, TPC has also employed an aggressive groundwater mitigation strategy to address the potential vapor intrusion migration pathway. Concurrent with soil gas sampling activities, site inspections and the development of Workplans to install SSDV systems, long-term and potential future exposures to affected off-site indoor air east of the site were addressed through interim remedial actions. In May 2011, TPC installed a PRB along the eastern property boundary in the vicinity of soil gas sample locations SG-01, SG-02, and SG-03. The purpose of the PRB is to eliminate the potential vapor intrusion pathway downgradient of the southern source area by treating shallow CVOC-affected groundwater along the eastern (downgradient) property line before it migrates off site.

TPC has addressed potential exposure to affected indoor air through a combination of evaluation of migration pathways, groundwater treatment, and by obtaining access agreements to install SSDV and/or collect confirmation samples in the near future. **Current human exposure to affected indoor air by residents is under control.**

Section 6

Surface Soil

6.1 Risk-Based Screening Levels for Surface Soil (<2 ft)

Generic Part 201 Criteria are the risk-based screening levels used to evaluate soil data. The following Part 201 criteria were used to determine if soil is affected above human health-based risk levels:

- n Residential Direct Contact (DC) Criteria, and
- n Non-Residential DC Criteria.

6.2 Evaluation of Surface Soil Data

Soil samples have been collected at on-site soil boring locations and monitoring well locations to help locate and evaluate potential source areas. Sample locations are shown on Figure 3. Soil data collected to date are summarized in Table 6. **No compounds were detected above risk-based screening levels in surface soil.**

Section 7

Surface Water

7.1 Risk-Based Levels for Screening Levels for Surface Water

MDEQ Rule 57 Water Quality Values and generic Part 201 criteria for groundwater are the risk-based screening levels used to determine if surface water is or has the potential to be affected above human health-based risk levels. Risk-based screening levels are listed below:

- n Residential Part 201 Health-Based DW Criteria,
- n Non-Residential Part 201 Health-Based DW Criteria,
- n Rule 57 Non-Drinking Water Human Non-Cancer Value (HNV),
- n Rule 57 Non-Drinking Water Human Cancer Value (HCV), and
- n Part 201 Groundwater Contact (GC) Criteria.

7.2 Evaluation of Surface Water Data

There are no surface water bodies located at the former TPC site. The nearest surface water body is the River Raisin which is located approximately 1,500 to 2,500 feet downgradient of the site. The River Raisin and associated wetland area is a regional discharge feature. There are two potential mechanisms for VOCs migrating from the site to reach the River Raisin:

- n The storm sewer along the perimeter of the site discharges at storm water sample location STW-01 (Figure 3) into the river basin; and
- n The River Raisin is a regional discharge feature for the groundwater beneath the TPC site as illustrated on Cross Section D-D' (Figure 8).

Storm water samples were collected from around the site. Sample results are presented in Table 9; sample locations are shown on Figure 3. The concentration of vinyl chloride at storm sewer sample location STW-02 on April 13, 2009 (23 ug/L) was detected above the residential and non-residential DW criterion (2.0 ug/L) and the Rule 57 HCV (13 ug/L). Five subsequent sample events at this location have not confirmed this exceedence, nor were any VOCs detected above screening levels at the storm water discharge point (STW-01) during any of six sample events. Surface water is not affected above risk-based screening levels due to storm water discharge.

Concentrations of VOCs are monitored in groundwater at monitoring wells located along the downgradient edge of the area of affected groundwater: MW-13s, MW-29s, MW-29d, MW-30s, MW-30d, MW-10s, MW-10d, MW-22, MW-17s, MW-31, MW-14s, and MW-14d (Table 4).

Concentrations of VOCs have been detected above DW criteria at two of these downgradient locations. The concentration of vinyl chloride has exceeded the DW criterion at monitoring well MW-22, and the concentration of TCE has exceeded the DW criterion at monitoring well MW-31.

Surface water concentrations are measured directly in the wetland area downgradient of monitoring well MW-22, at sample location WL-01. No VOCs have been detected at this location (Table 9).

As illustrated on Figure 12, groundwater downgradient of monitoring well MW-31 may be discharging to the River Raisin at concentrations above risk-based levels for drinking water. However, concentrations in groundwater will be diluted by the river. The concentration of TCE in the River Raisin was estimated by comparing the flow rate in the River Raisin to the discharge rate of affected groundwater into the river. The ratio of flow in the River Raisin relative to groundwater discharge is approximately 20,000:1 (Appendix E). Assuming a highly conservative TCE concentration of 300 ug/L (the maximum concentration measured at monitoring well MW-31) in the groundwater discharging to the River Raisin, the TCE concentration in the River Raisin due to discharge from the former TPC site is estimated to be <<1.0 ug/L. **Surface water is not affected above risk-based screening levels.**

Section 8

Sediment

8.1 Risk-Based Screening Levels for Sediment

Generic Part 201 Criteria for soil are the risk-based screening levels used to evaluate risk-based human exposure to sediment. The following Part 201 criteria were used to determine if sediment is affected above human health-based risk levels:

- n Residential DC Criteria, and
- n Non-Residential DC Criteria.

8.2 Evaluation of Sediment

As described above, there are no surface water bodies located at the former TPC site. The nearest surface water body, and associated sediment, is the River Raisin which is located approximately 1,500 to 2,500 feet downgradient of the site. VOCs in storm water or groundwater discharging through river sediment may be absorbed to river sediment.

Concentrations of VOCs in sediment were not measured directly. However, concentrations at storm water sample locations, the surface water sample location WL-01, and groundwater at monitoring wells along the downgradient perimeter of area affected by VOCs are much lower than both groundwater contact criteria and source area groundwater concentrations. Given that, the highest measured concentrations of VOCs in the soil at on-site source areas do not exceed human-health based screening levels for soil and sediment (Table 6), the absorption of VOCs from affected water is insufficient to affect sediment above screening levels. **Sediment is not affected above risk-based screening levels.**

Section 9

Sub-Surface Soil

9.1 Risk-Based Screening Levels for Sub-Surface Soil (>2 ft)

Generic Part 201 Criteria are the risk-based screening levels used to evaluate soil data. The following Part 201 criteria were used to determine if soil is affected above human health-based risk levels:

- n Residential DC Criteria, and
- n Non-Residential DC Criteria

9.2 Evaluation of Sub-Surface Soil Data

Soil samples have been collected at on-site soil boring locations and monitoring well locations to help locate and evaluate potential source areas. Sample locations are shown on Figure 3. Soil data collected to date are summarized in Table 6. **No compounds were detected above risk-based screening levels in sub-surface soil.**

Section 10

Outdoor Air

10.1 Risk-Based Screening Levels for Outdoor Air

Residential and non-residential indoor air screening criteria calculated as described in Section 5.1 above are also considered appropriate risk-based levels for outdoor air. These criteria are included in Table 5.

10.2 Background Ambient Air Concentrations

Measureable concentrations of VOCs, including the COCs for the site, are often present in background ambient air samples. Concentrations of CVOCs in background ambient air are expected to be similar to background indoor air concentrations. In June 2011, USEPA published a study which provided a summary of typical indoor air concentrations in North American residences. Background indoor air concentrations are included in Table 5.

10.3 Evaluation of the Potential for "Contamination" in Outdoor Air

Concentrations of VOCs in outdoor ambient air were not measured directly. However, indoor air concentrations were measured above the source areas. The highest measured indoor air concentration of TCE at the site was 19.8 ppbv, compared to a residential indoor air criterion of 2.3 ppbv. The highest detected concentration of 1,1-DCA in indoor air was 1.5 ppbv, compared to a residential indoor air criterion of 0.24 ppbv. Source area indoor air concentrations are expected to be diluted significantly ($\gg 10\times$) as VOCs migrate outdoors. Therefore **outdoor air is not expected to be affected above background ambient air concentrations and risk-based screening levels.**

Section 11

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Tables

Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-01s	796.53	3/16/2009	16.13	780.40
		4/20/2009	15.95	780.58
		6/4/2009	16.14	780.39
		12/7/2009	17.34	779.19
		3/23/2010	17.58	778.95
		5/10/2010	17.40	779.13
		9/2/2010	17.55	778.98
		12/10/2010	18.13	778.40
		2/14/2011	18.45	778.08
MW-02s	802.14	4/25/2011	17.53	779.00
		7/19/2011	16.89	779.64
		3/16/2009	21.94	780.20
		4/20/2009	21.60	780.54
		6/4/2009	21.53	780.61
		12/7/2009	22.87	779.27
		3/23/2010	23.27	778.87
		5/10/2010	23.10	779.04
		9/2/2010	23.00	779.14
MW-03s	787.00	12/10/2010	23.64	778.50
		2/14/2011	24.04	778.10
		4/25/2011	23.23	778.91
		7/19/2011	22.48	779.66
		3/16/2009	7.63	779.37
		4/20/2009	7.45	779.55
		6/4/2009	7.63	779.37
		12/7/2009	8.57	778.43
		3/23/2010	8.79	778.21
MW-04s	794.42	5/10/2010	8.60	778.40
		9/2/2010	8.70	778.30
		12/10/2010	9.20	777.80
		2/14/2011	9.58	777.42
		4/25/2011	8.71	778.29
		7/19/2011	8.26	778.74
		3/16/2009	14.64	779.78
		4/20/2009	14.40	780.02
		6/4/2009	14.48	779.94
MW-04s	794.42	12/7/2009	15.65	778.77
		3/23/2010	12.91*	781.51
		5/10/2010	15.80	778.62
		9/2/2010	15.80	778.62
		12/10/2010	16.40	778.02
		2/14/2011	16.75	777.67
		4/25/2011	15.90	778.52
		7/19/2011	15.26	779.16

Notes:

Survey conducted to feet mean sea level by Midwestern Consultants, Inc. (2009 - 2010)

ft MSL - feet above mean sea level

ft BTOC - feet below top of casing

NI - Not installed at time of measurement

Dry - Insufficient groundwater present for measurement

NM - Not measured

* Measured depth to water is anomalous.

Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-05s	805.59	3/16/2009	24.73	780.86
		4/20/2009	24.40	781.19
		6/4/2009	24.41	781.18
		12/7/2009	25.77	779.82
		3/23/2010	26.16	779.43
		5/10/2010	26.00	779.59
		9/2/2010	26.00	779.59
		12/10/2010	26.62	778.97
		2/14/2011	26.95	778.64
		4/25/2011	26.20	779.39
MW-06s	803.73	7/19/2011	25.29	780.30
		3/16/2009	23.26	780.47
		4/20/2009	22.85	780.88
		6/4/2009	22.72	781.01
		12/7/2009	24.18	779.55
		3/23/2010	24.65	779.08
		5/10/2010	24.58	779.15
		9/2/2010	24.35	779.38
		12/10/2010	24.99	778.74
		2/14/2011	25.40	778.33
MW-07s	804.40	4/25/2011	24.64	779.09
		7/19/2011	23.80	779.93
		3/16/2009	23.85	780.55
		4/20/2009	23.40	781.00
		6/4/2009	23.24	781.16
		12/7/2009	24.75	779.65
		3/23/2010	25.19	779.21
		5/10/2010	25.08	779.32
		9/2/2010	25.00	779.40
		12/10/2010	25.59	778.81
MW-08s	804.39	2/14/2011	25.53	778.87
		4/25/2011	25.18	779.22
		7/19/2011	24.32	780.08
		3/16/2009	23.61	780.78
		4/20/2009	23.30	781.09
		6/4/2009	23.24	781.15
		12/7/2009	24.61	779.78
		3/23/2010	25.00	779.39
		5/10/2010	25.06	779.33
		9/2/2010	24.80	779.59
12/10/2010	25.47	778.92		
2/14/2011	25.79	778.60		
4/25/2011	25.00	779.39		
7/19/2011	24.18	780.21		

Notes:

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-09s	783.97	3/16/2009	4.46	779.51
		4/20/2009	4.30	779.67
		6/4/2009	4.63	779.34
		12/7/2009	5.65	778.32
		3/23/2010	5.78	778.19
		5/10/2010	5.60	778.37
		9/2/2010	5.85	778.12
		12/10/2010	6.98	776.99
		3/1/2011	6.04	777.93
		4/25/2011	5.48	778.49
		Well Removed		
MW-10s	788.65	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	10.46	778.19
		12/7/2009	11.57	777.08
		3/23/2010	11.55	777.10
		5/10/2010	11.20	777.45
		9/2/2010	11.85	776.80
		12/10/2010	12.15	776.50
		2/14/2011	12.46	776.19
		4/25/2011	11.09	777.56
7/19/2011	11.34	777.31		
MW-10d	788.40	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	12.10	776.30
		3/23/2010	11.98	776.42
		5/10/2010	11.60	776.80
		9/2/2010	12.41	775.99
		12/10/2010	12.68	775.72
		2/14/2011	12.99	775.41
		4/25/2011	11.48	776.92
7/19/2011	12.05	776.35		
MW-11s	809.64	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	28.09	781.55
		12/7/2009	29.69	779.95
		3/23/2010	30.29	779.35
		5/10/2010	30.20	779.44
		9/2/2010	29.90	779.74
		12/10/2010	30.49	779.15
		2/14/2011	30.95	778.69
		4/25/2011	30.21	779.43
7/19/2011	29.43	780.21		

Notes:

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-12s	790.90	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	12.40	778.50
		12/7/2009	13.67	777.23
		3/23/2010	14.06	776.84
		5/10/2010	13.90	777.00
		9/2/2010	13.85	777.05
		12/10/2010	14.34	776.56
		2/14/2011	14.70	776.20
MW-12d	790.48	4/25/2011	13.95	776.95
		7/19/2011	13.34	777.56
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	13.93	776.55
		5/10/2010	13.81	776.67
		9/2/2010	12.70	777.78
MW-13s	787.35	12/10/2010	14.23	776.25
		2/14/2011	14.61	775.87
		4/25/2011	13.90	776.58
		7/19/2011	13.24	777.24
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	14.88	772.47
		12/7/2009	15.81	771.54
		3/23/2010	15.82	771.53
MW-14s	780.67	5/10/2010	15.50	771.85
		9/2/2010	15.70	771.65
		12/10/2010	16.15	771.20
		2/14/2011	16.89	770.46
		4/25/2011	15.50	771.85
		7/19/2011	15.21	772.14
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	5.12	775.55
		12/7/2009	6.20	774.47
		3/23/2010	3.62	777.05
		5/10/2010	3.60	777.07
		9/2/2010	7.05	773.62
		12/10/2010	6.80	773.87
		2/14/2011	6.36	774.31
		4/25/2011	2.43	778.24
		7/19/2011	5.88	774.79

Notes:

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-14d	780.51	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	29.97	750.54
		5/10/2010	29.85	750.66
		9/2/2010	30.10	750.41
		12/10/2010	30.19	750.32
		2/14/2011	30.28	750.23
		4/25/2011	29.73	750.78
MW-15s	811.72	7/19/2011	29.78	750.73
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	29.59	782.13
		12/7/2009	31.09	780.63
		3/23/2010	31.48	780.24
		5/10/2010	31.50	780.22
		9/2/2010	31.25	780.47
		12/10/2010	32.03	779.69
		2/14/2011	32.33	779.39
MW-16s	782.90	4/25/2011	31.63	780.09
		7/19/2011	30.61	781.11
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		7/23/2009	Dry	NM
		12/7/2009	Dry	NM
		3/23/2010	Dry	NM
		5/10/2010	Dry	NM
		9/2/2010	Dry	NM
		12/10/2010	Dry	NM
MW-17s	754.49	2/14/2011	Dry	NM
		4/25/2011	Dry	NM
		7/21/2011	Dry	NM
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		7/23/2009	5.33	749.16
		12/7/2009	5.40	749.09
		3/23/2010	5.25	749.24
		5/10/2010	5.18	749.31
		9/2/2010	5.50	748.99
12/10/2010	5.44	749.05		
2/14/2011	5.41	749.08		
4/25/2011	5.05	749.44		
7/21/2011	5.31	749.18		

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-18s	805.49	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	25.66	779.83
		3/23/2010	26.02	779.47
		5/10/2010	25.95	779.54
		9/2/2010	25.80	779.69
		12/10/2010	26.50	778.99
		2/14/2011	26.82	778.67
MW-19s	803.92	4/25/2011	26.10	779.39
		7/19/2011	25.31	780.18
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	24.05	779.87
		3/23/2010	24.26	779.66
		5/10/2010	24.25	779.67
		9/2/2010	24.25	779.67
MW-19d	804.04	12/10/2010	24.91	779.01
		2/14/2011	25.20	778.72
		4/25/2011	24.38	779.54
		7/19/2011	23.58	780.34
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	24.17	779.87
		3/23/2010	24.41	779.63
MW-20s	783.16	5/10/2010	24.35	779.69
		9/2/2010	24.40	779.64
		12/10/2010	25.03	779.01
		2/14/2011	25.34	778.70
		4/25/2011	24.50	779.54
		7/19/2011	23.70	780.34
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
MW-20s	783.16	12/7/2009	4.85	778.31
		3/23/2010	4.97	778.19
		5/10/2010	4.80	778.36
		9/2/2010	5.00	778.16
		12/10/2010	5.53	777.63
		2/14/2011	5.81	777.35
		4/25/2011	4.86	778.30
		7/19/2011	4.38	778.78

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-20d	783.29	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	11.98	771.31
		3/23/2010	12.62	770.67
		5/10/2010	12.80	770.49
		9/2/2010	14.10	769.19
		12/10/2010	14.91	768.38
		2/14/2011	15.17	768.12
MW-21	780.85	4/25/2011	14.55	768.74
		7/19/2011	14.57	768.72
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	29.69	751.16
		3/23/2010	29.51	751.34
		5/10/2010	29.35	751.50
		9/2/2010	29.60	751.25
MW-22	782.62	12/10/2010	29.75	751.10
		2/14/2011	29.87	750.98
		4/25/2011	29.34	751.51
		7/19/2011	29.19	751.66
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	24.62	758.00
		3/23/2010	24.88	757.74
MW-23	787.10	5/10/2010	24.88	757.74
		9/2/2010	25.15	757.47
		12/10/2010	25.03	757.59
		2/14/2011	24.91	757.71
		4/25/2011	24.76	757.86
		7/21/2011	24.98	757.64
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
MW-23	787.10	12/7/2009	9.27	777.83
		3/23/2010	9.50	777.60
		5/10/2010	9.45	777.65
		9/2/2010	9.45	777.65
		12/10/2010	9.97	777.13
		2/14/2011	10.32	776.78
		4/25/2011	9.47	777.63
		7/19/2011	9.00	778.10

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-24s	797.83	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	19.10	778.73
		3/23/2010	19.49	778.34
		5/10/2010	19.37	778.46
		9/2/2010	19.30	778.53
		12/10/2010	19.83	778.00
		2/14/2011	20.24	777.59
MW24d	797.93	4/25/2011	19.43	778.40
		7/19/2011	18.73	779.10
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	19.20	778.73
		3/23/2010	19.58	778.35
		5/10/2010	19.45	778.48
		9/2/2010	19.35	778.58
MW-25s	798.23	12/10/2010	19.95	777.98
		2/14/2011	20.31	777.62
		4/25/2011	19.52	778.41
		7/19/2011	18.85	779.08
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	18.77	779.46
		3/23/2010	18.97	779.26
MW-26s	805.73	5/12/2010	18.80	779.43
		9/2/2010	19.00	779.23
		12/10/2010	19.60	778.63
		2/14/2011	19.90	778.33
		4/25/2011	18.96	779.27
		7/19/2011	18.31	779.92
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		4/6/2010	26.10	779.63
		5/10/2010	26.00	779.73
		9/2/2010	26.00	779.73
		12/10/2010	26.68	779.05
		2/14/2011	26.95	778.78
		4/25/2011	26.11	779.62
		7/19/2011	25.31	780.42

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-27s	781.39	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	3.12	778.27
		5/10/2010	2.83	778.56
		9/2/2010	3.15	778.24
		12/10/2010	3.58	777.81
		2/14/2011	3.77	777.62
		4/25/2011	2.79	778.60
		7/19/2011	2.45	778.94
MW-27d	781.40	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	23.63	757.77
		5/10/2010	23.50	757.90
		9/2/2010	23.65	757.75
		12/10/2010	23.94	757.46
		2/14/2011	24.08	757.32
		4/25/2011	23.40	758.00
		7/19/2011	23.22	758.18
MW-28s	804.68	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	25.53	779.15
		5/10/2010	25.45	779.23
		9/2/2010	25.20	779.48
		12/10/2010	25.86	778.82
		2/14/2011	26.30	778.38
		4/25/2011	25.47	779.21
		7/19/2011	24.70	779.98
MW-28d	804.92	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	25.81	779.11
		5/10/2010	25.70	779.22
		9/2/2010	25.50	779.42
		12/10/2010	26.10	778.82
		2/14/2011	26.54	778.38
		4/25/2011	25.75	779.17
		7/19/2011	24.95	779.97

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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-29s	788.16	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	15.80	772.36
		5/10/2010	15.50	772.66
		9/2/2010	15.55	772.61
		12/10/2010	16.18	771.98
		2/14/2011	16.22	771.94
MW-29d	788.16	4/25/2011	15.40	772.76
		7/19/2011	15.50	772.66
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	18.74	769.42
		5/10/2010	18.60	769.56
		9/2/2010	18.55	769.61
MW-30s	787.69	12/10/2010	18.28	769.88
		2/14/2011	18.95	769.21
		4/25/2011	18.90	769.26
		7/19/2011	18.28	769.88
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	9.89	777.80
MW-30d	787.66	5/10/2010	9.75	777.94
		9/2/2010	9.90	777.79
		12/10/2010	10.36	777.33
		2/14/2011	10.74	776.95
		4/25/2011	9.58	778.11
		7/19/2011	9.40	778.29
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
12/7/2009	NI	NI		
3/23/2010	9.85	777.81		
5/10/2010	9.68	777.98		
9/2/2010	9.80	777.86		
12/10/2010	10.27	777.39		
2/14/2011	10.63	777.03		
4/25/2011	9.25	778.41		
7/19/2011	9.29	778.37		

Notes:

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- NI - Not installed at time of measurement
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- NM - Not measured
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Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
MW-31	782.36	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	NI	NI
		6/18/2010	32.60	749.76
		9/2/2010	33.00	749.36
		12/10/2010	33.03	749.33
		2/14/2011	33.03	749.33
MW-32s	802.59	4/25/2011	31.62	750.74
		7/21/2011	32.76	749.60
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	NI	NI
		6/18/2010	NI	NI
		9/17/2010	23.45	779.14
MW-33s	799.49	12/10/2010	23.96	778.63
		2/14/2011	24.35	778.24
		4/25/2011	23.54	779.05
		7/19/2011	22.81	779.78
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	NI	NI
		3/23/2010	NI	NI
MW-34s	802.78	6/18/2010	NI	NI
		9/17/2010	20.62	778.87
		12/10/2010	21.11	778.38
		2/14/2011	21.36	778.13
		4/25/2011	20.68	778.81
		7/19/2011	19.95	779.54
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
MW-34s	802.78	12/7/2009	NI	NI
		3/23/2010	NI	NI
		6/18/2010	NI	NI
		9/17/2010	23.60	779.18
		12/10/2010	24.15	778.63
		2/14/2011	24.49	778.29
		4/25/2011	23.63	779.15
		7/19/2011	22.89	779.89

Notes:

- Survey conducted to feet mean sea level by Midwestern Consultants, Inc. (2009 - 2010)
- ft MSL - feet above mean sea level
- ft BTOC - feet below top of casing
- NI - Not installed at time of measurement
- Dry - Insufficient groundwater present for measurement
- NM - Not measured
- * Measured depth to water is anomalous.

Table 1
Groundwater and Surface Water Elevations
Former Tecumseh Products Company Site
Tecumseh, Michigan
Third Quarter 2011

Well Location	Top of Well Casing (ft MSL)	Measurement Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft MSL)
E. Chicago Blvd (River Raisin)	756.50	3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	14.00	742.51
		3/23/2010	13.32	743.18
		6/18/2010	13.42	743.08
		9/2/2010	14.90	741.60
		12/10/2010	13.89	742.61
		2/14/2011	14.46	742.04
		4/25/2011	11.50*	745.00
Russell Road (River Raisin)	755.23	7/19/2011	14.60	741.90
		3/16/2009	NI	NI
		4/20/2009	NI	NI
		6/4/2009	NI	NI
		12/7/2009	19.36	735.87
		3/23/2010	18.50	736.73
		6/18/2010	18.65	736.58
		9/2/2010	20.40	734.83
		12/10/2010	22.04	733.19
		2/14/2011	19.99	735.24
4/25/2011	19.50	735.73		
7/19/2011	22.65	732.58		

Notes:

Survey conducted to feet mean sea level by Midwestern Consultants, Inc. (2009 - 2010)

ft MSL - feet above mean sea level

ft BTOC - feet below top of casing

NI - Not installed at time of measurement

Dry - Insufficient groundwater present for measurement

NM - Not measured

* Measured depth to water is anomalous.

Table 2
 Summary of Detected Volatile Organic Compounds at Source Area Grab Groundwater Sample Locations
 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Analyte		Chloroethane	Chloroform	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene ⁽¹⁾	Vinyl Chloride	1,4-Dioxane ⁽²⁾
Residential DW Criteria		430	80	880	7.0	70	100	5.0	200	5.0	1,000	2.0	85
Non-Residential DW Criteria		1,700	80	2,500	7.0	70	100	5.0	200	5.0	2,900	2.0	350
Residential GWSL for Vapor Intrusion		NC	NC	130	390	440	330	11	15,000	58	NC	5.0	NC
Non-Residential GWSL for Vapor Intrusion		NC	NC	440	550	610	460	37	21,000	190	NC	17	NC
Residential GVIAIC		5.7E+06	28,000	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	56,000	1,100	NC
Non-Residential GVIAIC		5.7E+06	1.8E+05	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	56,000	13,000	NC
Groundwater Contact Criteria		4.4E+05	1.5E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	56,000	1,000	1.7E+06
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
NS-01 (20-24')	4/17/2009	<100	<20	<20	<20	260	<20	<20	<20	830	<20	<20	--
NS-02 (20-24')	4/17/2009	<250	<50	<50	<50	590	<50	<50	<50	1,700	<50	430	--
NS-03 (16-20')	4/15/2009	<20	<4.0	<4.0	<4.0	23	<4.0	<4.0	<4.0	45	<4.0	41	--
NS-03 (37-41')	4/15/2009	<5.0	<1.0	<1.0	<1.0	9.8	<1.0	<1.0	<1.0	19	<1.0	480	--
NS-04 (14-18')	4/16/2009	<5.0	<1.0	1.4	<1.0	11	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--
NS-04 (32-36')	4/16/2009	<5.0	<1.0	<1.0	<1.0	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--
NS-05 (20-24')	4/20/2009	<1,000	<200	<200	<200	<200	<200	<200	<200	2,900	<200	<200	--
NS-06 (22-24')	4/20/2009	<500	<100	<100	<100	220	<100	<100	100	4,500	<100	<100	--
NS-07 (20-24')	4/21/2009	<100	<20	<20	<20	34	<20	30	<20	710	<20	<20	--
NS-08 (20-24')	4/21/2009	<100	<20	21	<20	100	<20	28	<20	960	<20	27	--
NS-08 (20-24') DUP-09	4/21/2009	<100	<20	22	<20	100	<20	29	<20	950	<20	30	--
NS-09 (20-24')	4/21/2009	5.8	1.1	46	<1.0	110	5.0	<1.0	<1.0	16	1.3	140	--
NS-10 (21-25')	4/21/2009	<50	<10	26	<10	380	13	<10	<10	<10	17	45	--
NS-11 (23-28')	9/15/2010	<50	<10	<10	<10	13	<10	<10	15	1,500	<10	<10	--
NS-12 (23-28')	9/15/2010	<50	<10	31	14	330	<10	<10	<10	720	<10	120	--
NS-13 (23-28')	9/16/2010	<50	<10	<10	<10	71	<10	<10	13	980	<10	<10	--
NS-13 (23-28') DUP-02	9/16/2010	<50	<10	<10	<10	69	<10	<10	12	970	<10	<10	--
NS-14 (23-28')	9/17/2010	<50	<10	28	<10	120	<10	<10	280	1,300	<10	<10	--
NS-15 (22-27')	9/17/2010	<50	<10	57	<10	1,300	62	<10	<10	87	<10	660	--
NS-16 (19-24')	9/17/2010	<25	<5.0	25	<5.0	150	6.2	<5.0	<5.0	530	<5.0	210	--
NS-17 (23-28')	9/17/2010	7.0	<1.0	19	<1.0	2.2	<1.0	1.6	35	120	<1.0	<1.0	--
SS-1 (24-28')	4/15/2009	<1,000	<200	<200	<200	<200	<200	<200	1,500	1,500	<200	<200	<25
SS-1 (45-49')	4/15/2009	<5.0	<1.0	2.5	<1.0	9.9	<1.0	<1.0	2.7	5.8	<1.0	<1.0	<25
SS-2 (20-24')	4/16/2009	<500	<100	<100	<100	<100	<100	<100	2,200	1,000	<100	<100	<25
SS-2 (42-46')	4/16/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.5	5.3	<1.0	<1.0	<25
SS-3 (20-24')	4/16/2009	<250	<50	<50	<50	<50	<50	120	600	430	<50	<50	<25
SS-4 (22-24')	4/17/2009	<500	<100	<100	<100	<100	<100	<100	2,500	1,100	<100	<100	<25
SS-5 (22-26')	4/17/2009	<500	<100	<100	<100	<100	<100	<100	2,200	1,300	<100	<100	<25
SS-6 (23-27')	4/17/2009	<1,000	<200	<200	<200	<200	<200	<200	2,600	1,100	<200	<200	160
SS-7 (22-26')	4/20/2009	<500	<100	<100	<100	<100	<100	<100	1,300	1,400	<100	<100	<25
SS-8 (23-27')	4/21/2009	<500	<100	<100	<100	<100	<100	<100	4,100	2,300	<100	<100	38

Notes:

Residential and Non-Residential Drinking Water (DW) Criteria, Residential and Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC) and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDNRE Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_vSLs) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA). Proposed GWSLs were approved by USEPA in a comment letter dated, August 24, 2010.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

Green background Denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

Table 3
 Summary of Detected Volatile Organic Compounds at Perimeter and Off-Site Grab Groundwater Sample Locations
 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Analyte	Carbon Disulfide	Dichloro-difluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene ⁽¹⁾	Tetrachloroethene	Toluene ⁽¹⁾	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene ⁽¹⁾	Vinyl Chloride	Total Xylenes ⁽¹⁾
Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	1,000	2.0	10,000
Non-Residential DW Criteria	2,300	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2,900	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	2.2E+05	130	NC	390	440	330	NC	11	NC	15,000	NC	58	NC	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	3.0E+05	440	NC	550	610	460	NC	37	NC	21,000	NC	190	NC	17	NC
Residential GVIAIC	2.5E+05	2.2E+05	1.0E+06	9,600	200	93,000	85,000	1.1E+05	25,000	5.3E+05	6.6E+05	17,000	15,000	56,000	1,100	1.9E+05
Non-Residential GVIAIC	5.5E+05	3.0E+05	2.3E+06	59,000	1,300	2.1E+05	2.0E+05	1.7E+05	1.7E+05	5.3E+05	1.3E+06	1.1E+05	97,000	56,000	13,000	1.9E+05
Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	56,000	1,000	1.9E+05
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

B-01 (26-30')	3/9/2009	<1.0	<1.0	26	1.0	5.9	120	12	<1.0	<1.0	5.3	<1.0	<1.0	200	<1.0	<1.0	<3.0
B-01 (46-50')	3/9/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.2	<1.0	<1.0	6.8	<1.0	5.0	<3.0
B-02 (22-26')	3/10/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	27	<3.0
B-02 (33-37')	3/10/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.0	<1.0	16	<3.0
B-03 (26-30')	3/9/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.6	<1.0	<1.0	<1.0	<1.0	1.4	<3.0
B-03 (38-42')	3/9/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-04 (19-23')	3/10/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12	<3.0
B-04 (19-23') DUP-01	3/10/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	12	<3.0
B-04 (29-33')	3/10/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-05 (14-18')	3/10/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	<3.0
B-05 (22-26')	3/10/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.7	<3.0
B-06 (44-48')	3/13/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.5	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-07 (44-48')	3/16/2009	3.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-08 (44-48')	3/13/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-10 (24-28')	4/16/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	57	<1.0	<1.0	<2.0
B-11 (29-33')	4/16/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-12 (24-28')	4/16/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	<2.0
B-12 (24-28') DUP-05	4/16/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.2	<1.0	<1.0	<2.0
B-13 (29-33')	4/17/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-13 (46-50')	4/16/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-14 (16-20')	4/14/2009	--	--	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	1,100	<100	<100	<200
B-14 (36-40')	4/14/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<2.0
B-15 (24-28')	4/20/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	9.9	<1.0	2.8	<1.0	<1.0	<2.0
B-15 (44-48')	4/20/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.7	<1.0	<1.0	<2.0
B-17 (24-28')	4/20/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-18 (22-26')	4/14/2009	--	--	<1.0	<1.0	<1.0	2.3	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-18 (32-36')	4/14/2009	--	--	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-19 (12-16')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	<2.0
B-19 (29-33')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10	<2.0
B-20 (8-12')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-20 (18-22')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-21 (6-10')	4/15/2009	--	--	3.3	<1.0	<1.0	3.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.9	<1.0	1.0	<2.0
B-21 (13-17')	4/15/2009	--	--	8.1	<1.0	<1.0	13	2.2	<1.0	<1.0	<1.0	3.6	<1.0	30	<1.0	58	<2.0

Notes:
 Residential and Non-Residential Drinking Water (DW) Criteria, Residential and Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC) and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDNRE Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_vSLs) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA). Proposed GWSLs were approved by USEPA in a comment letter dated, August 24, 2010.

ug/L = micrograms per liter
 NC = No criteria
 -- = Not analyzed
Bold font denotes concentrations detected above laboratory reporting limits
Denotes concentrations above one or more criteria
 1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

Table 3
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 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Analyte	Carbon Disulfide	Dichloro-difluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene ⁽¹⁾	Tetrachloroethene	Toluene ⁽¹⁾	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene ⁽¹⁾	Vinyl Chloride	Total Xylenes ⁽¹⁾
Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	1,000	2.0	10,000
Non-Residential DW Criteria	2,300	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2,900	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	2.2E+05	130	NC	390	440	330	NC	11	NC	15,000	NC	58	NC	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	3.0E+05	440	NC	550	610	460	NC	37	NC	21,000	NC	190	NC	17	NC
Residential GVIAIC	2.5E+05	2.2E+05	1.0E+06	9,600	200	93,000	85,000	1.1E+05	25,000	5.3E+05	6.6E+05	17,000	15,000	56,000	1,100	1.9E+05
Non-Residential GVIAIC	5.5E+05	3.0E+05	2.3E+06	59,000	1,300	2.1E+05	2.0E+05	1.7E+05	1.7E+05	5.3E+05	1.3E+06	1.1E+05	97,000	56,000	13,000	1.9E+05
Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	56,000	1,000	1.9E+05
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

B-22 (18-23')	4/14/2009	--	--	<20	<20	<20	<20	<20	<20	<20	53	<20	190	<20	<20	<40
B-22 (40-44')	4/14/2009	--	--	<1.0	<1.0	<1.0	13	<1.0	<1.0	<1.0	1.4	<1.0	3.0	<1.0	<1.0	<2.0
B-23 (14-18')	4/13/2009	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.8	<2.0	<2.0	23	<2.0	<2.0	<6.0
B-23 (14-18') DUP 01	4/13/2009	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	5.0	<2.0	<2.0	26	<2.0	<2.0	<6.0
B-23 (30-34')	4/13/2009	--	--	<250	<250	<250	5,500	<250	<250	<250	<250	<250	1,700	<250	<250	<750
B-23b (14-16')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	8.9	<1.0	<1.0	<2.0
B-24 (6-10')	4/13/2009	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	150	<5.0	<5.0	<15
B-24 (28-32')	4/13/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	6.7	<2.0
B-24b (5-7')	4/16/2009	--	--	<20	<20	<20	<20	<20	<20	<20	29	<20	740	<20	<20	<40
B-24b (5-7') DUP-04	4/16/2009	--	--	<50	<50	<50	<50	<50	<50	<50	<50	<50	770	<50	<50	<100
B-25 (7-11')	4/17/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-25 (7-11') DUP-06	4/17/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-25 (31-35')	4/17/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-26 (16-20')	4/14/2009	--	--	<1.0	<1.0	<1.0	3.2	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	3.1
B-26 (29-33')	4/14/2009	--	--	<1.0	<1.0	<1.0	7.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	140
B-27b (8-10')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	9.2	<1.0	<1.0	<2.0
B-28b (16-18')	4/16/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7
B-29 (8-12')	4/13/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-29 (38-42')	4/13/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3
B-29b	11/24/2009	<2.0	<10	27	<2.0	<2.0	6.2	<2.0	<2.0	210	<2.0	77	76	<2.0	<2.0	<6.0
B-30 (6-11')	4/14/2009	--	--	2.4	<1.0	<1.0	36	4.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-30 (30-34')	4/14/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1
B-30 (30-34') DUP-02	4/14/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-31 (10-14')	4/13/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.4	<1.0	<1.0	<1.0	<1.0	8.1	<2.0
B-31 (25-29')	4/13/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	390	<2.0
B-32 (10-14')	4/14/2009	--	--	<1.0	<1.0	<1.0	13	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	430	<2.0
B-32 (25-29')	4/14/2009	--	--	<100	<100	<100	1,200	<100	<100	<100	<100	<100	<100	<100	360	<200
B-32b (8.5-10.5')	4/15/2009	--	--	<1.0	<1.0	<1.0	3.4	<1.0	<1.0	1.7	<1.0	<1.0	13	<1.0	1.6	<2.0
B-33 (4-8')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-33 (4-8') DUP-03	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-33 (17-21')	4/15/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-33b	11/24/2009	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.7	<1.0	<1.0	<3.0
B-34 (14-18')	4/20/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0

Notes:
 Residential and Non-Residential Drinking Water (DW) Criteria, Residential and Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC) and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDNRE Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_vSLs) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA). Proposed GWSLs were approved by USEPA in a comment letter dated, August 24, 2010.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

Green background denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

Table 3
 Summary of Detected Volatile Organic Compounds at Perimeter and Off-Site Grab Groundwater Sample Locations
 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Analyte	Carbon Disulfide	Dichloro-difluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene ⁽¹⁾	Tetrachloroethene	Toluene ⁽¹⁾	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene ⁽¹⁾	Vinyl Chloride	Total Xylenes ⁽¹⁾
Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	1,000	2.0	10,000
Non-Residential DW Criteria	2,300	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2,900	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	2.2E+05	130	NC	390	440	330	NC	11	NC	15,000	NC	58	NC	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	3.0E+05	440	NC	550	610	460	NC	37	NC	21,000	NC	190	NC	17	NC
Residential GVIAIC	2.5E+05	2.2E+05	1.0E+06	9,600	200	93,000	85,000	1.1E+05	25,000	5.3E+05	6.6E+05	17,000	15,000	56,000	1,100	1.9E+05
Non-Residential GVIAIC	5.5E+05	3.0E+05	2.3E+06	59,000	1,300	2.1E+05	2.0E+05	1.7E+05	1.7E+05	5.3E+05	1.3E+06	1.1E+05	97,000	56,000	13,000	1.9E+05
Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	56,000	1,000	1.9E+05
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

B-34 (41-45')	4/20/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-35 (5-9')	4/20/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<2.0
B-35 (5-9') DUP-07	4/20/2009	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<2.0
B-35 (11-16')	9/17/2010	<1.0	<1.0	1.1	<1.0	<1.0	69	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-35 (30-34')	4/20/2009	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	450	<20
B-36 (12-16')	5/13/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-36 (16-20')	5/13/2009	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-36 (16-20') DUP-01	5/13/2009	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-37 (38.5-42.5')	5/12/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-38 (15-19')	5/13/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-38 (36-40')	5/13/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-39 (15-19')	5/13/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-40 (16-20')	5/15/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-40 (42-46')	5/15/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-45 (10-12')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-45 (14-16')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	33	<3.0
B-45 (22-24')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	<3.0
B-46 (8-10')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	8.2	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-46 (14-16')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	<3.0
B-46 (21-23')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<3.0
B-47 (7.75-9.75')	2/22/2011	<1.0	<1.0	15	<1.0	1.1	73	6.7	<1.0	<1.0	<1.0	6.4	100	<1.0	<1.0	2.3
B-47 (7.75-9.75') DUP-01	2/22/2011	<1.0	<1.0	14	<1.0	<1.0	71	6.9	<1.0	<1.0	<1.0	6.8	97	<1.0	<1.0	<3.0
B-47 (14-16')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	23	<3.0
B-47 (21-23')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	28	<3.0
B-48 (7-9')	2/22/2011	<1.0	<1.0	6.2	<1.0	<1.0	34	2.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-48 (13-15')	2/22/2011	<1.0	<1.0	16	<1.0	2.1	110	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	32	<3.0
B-48 (19.5-21.5')	2/22/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	47	<3.0
B-49 (13-15')	2/22/2011	<5.0	<5.0	8.2	<5.0	<5.0	33	<5.0	<5.0	<5.0	9.0	<5.0	760	<5.0	<5.0	<15
B-49 (19.5-21.5')	2/22/2011	<10	<10	<10	<10	<10	31	<10	<10	<10	49	<10	1,600	<10	<10	<30
B-50 (7-9')	2/23/2011	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	33	<5.0	710	<5.0	<5.0	<15
B-50 (13-15')	2/23/2011	<50	<50	<50	<50	<50	<50	<50	<50	<50	100	<50	5,400	<50	<50	<150
B-50 (20-22')	2/23/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	6.5
B-50 (20-22') DUP-02	2/23/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	7.0

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Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	1,000	2.0	10,000
Non-Residential DW Criteria	2,300	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2,900	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	2.2E+05	130	NC	390	440	330	NC	11	NC	15,000	NC	58	NC	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	3.0E+05	440	NC	550	610	460	NC	37	NC	21,000	NC	190	NC	17	NC
Residential GVIAIC	2.5E+05	2.2E+05	1.0E+06	9,600	200	93,000	85,000	1.1E+05	25,000	5.3E+05	6.6E+05	17,000	15,000	56,000	1,100	1.9E+05
Non-Residential GVIAIC	5.5E+05	3.0E+05	2.3E+06	59,000	1,300	2.1E+05	2.0E+05	1.7E+05	1.7E+05	5.3E+05	1.3E+06	1.1E+05	97,000	56,000	13,000	1.9E+05
Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	56,000	1,000	1.9E+05
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

B-51 (7-9')	2/23/2011	<5.0	<5.0	<5.0	<5.0	<5.0	13	<5.0	<5.0	<5.0	<5.0	25	<5.0	580	<5.0	<5.0	<15
B-51 (13-15')	2/23/2011	<10	<10	36	<10	140	87	<10	<10	<10	<10	260	<10	1,600	<10	<10	<30
B-51 (20-22')	2/23/2011	<10	<10	<10	<10	<10	23	24	<10	<10	<10	<10	<10	970	<10	62	<30
B-52 (7-9')	2/23/2011	<500	<500	930	<500	<500	520	<500	4,400	<500	85,000	2,900	<500	2,900	<500	<500	43,000
B-52 (13-15')	2/23/2011	<10	<10	57	<10	<10	71	<10	430	<10	120	<10	<10	30	<10	270	1,326
B-52 (20-22')	2/23/2011	<5.0	<5.0	<5.0	<5.0	<5.0	140	16	<5.0	<5.0	<5.0	<5.0	<5.0	440	<5.0	<5.0	<15
B-53 (18-20')	2/23/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	120	<1.0	<1.0	<3.0
B-53 (24-26')	2/23/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-54 (18-20')	2/23/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<3.0
B-54 (26-28')	2/23/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-58 (7-12')	4/1/2011	--	--	--	--	--	--	--	620	--	16	--	--	--	--	--	5,300
B-59 (7-12')	4/1/2011	--	--	--	--	--	--	--	2,500	--	41,000	--	--	--	--	--	24,000
B-60 (7-12')	4/1/2011	--	--	--	--	--	--	--	4,700	--	55,000	--	--	--	--	--	48,000
B-61 (7-12')	4/1/2011	--	--	--	--	--	--	--	5,200	--	61,000	--	--	--	--	--	41,000
B-62 (7-12')	4/1/2011	--	--	--	--	--	--	--	1.4	--	<1.0	--	--	--	--	--	<3.0
B-63 (7-12')	4/1/2011	--	--	--	--	--	--	--	3,800	--	21,000	--	--	--	--	--	30,000
B-63 (7-12') DUP-01	4/1/2011	--	--	--	--	--	--	--	3,800	--	21,000	--	--	--	--	--	31,000
B-64 (7-12')	4/1/2011	--	--	--	--	--	--	--	9,300	--	18,000	--	--	--	--	--	59,000
B-65 (7-12')	4/1/2011	--	--	--	--	--	--	--	3,200	--	90	--	--	--	--	--	23,000
B-66 (7-12')	4/1/2011	--	--	--	--	--	--	--	2,500	--	<50	--	--	--	--	--	28,000
B-67 (7-12')	4/1/2011	--	--	--	--	--	--	--	140	--	<5.0	--	--	--	--	--	1,300
MW-25 (46-51')	12/1/2009	<1.0	<5.0	<1.0	<1.0	<1.0	37	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0

Notes:
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Bold font denotes concentrations detected above laboratory reporting limits

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1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

Table 4
Summary of Detected Volatile Organic Compounds in Monitoring Wells
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride	
Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0	
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0	
Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0	
Non-Residential GWSL for Vapor Intrusion	6.4E+06	440	550	610	460	37	21,000	190	510	17	
Residential GVIAIC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100	
Non-Residential GVIAIC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000	
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
MW-01s (16-21')	3/13/2009	<100	<20	<20	<20	<20	<20	750	2,700	<20	<20
	4/20/2009	--	<100	<100	<100	<100	<100	1,100	2,200	--	<100
	12/9/2009	<100	<20	<20	<20	<20	<20	1,000	3,400	<20	<20
	3/17/2010	<100	<20	<20	<20	<20	<20	1,400	2,500	<20	<20
	5/18/2010	<100	<20	<20	<20	<20	<20	1,000	2,700	<20	<20
	9/3/2010	<100	<20	<20	<20	<20	<20	750	2,400	<20	<20
	12/28/2010	<100	<20	<20	<20	<20	<20	1,100	2,500	<20	<20
	2/25/2011	<50	<10	<10	<10	<10	<10	560	1,300	<10	<10
	5/11/2011 ⁽²⁾	<50	<10	<10	<10	<10	<10	860	1,900	<10	<10
7/28/2011	<100	<20	<20	<20	<20	<20	500	1,900	<20	<20	
DUP-01 (MW-01s)	3/13/2009	<20	<20	<20	<20	<20	<20	720	2,700	<20	<20
MW-02s (23-28')	3/13/2009	<10	<2.0	<2.0	2.4	<2.0	2.2	2.5	280	<2.0	<2.0
	4/20/2009	--	<10	<10	<10	<10	<10	<10	130	--	<10
	12/9/2009	<10	<2.0	<2.0	3.7	<2.0	2.7	2.9	250	<2.0	<2.0
	3/17/2010	13	<2.0	<2.0	4.1	<2.0	2.3	3.1	290	<2.0	<2.0
	5/18/2010	<10	<2.0	<2.0	2.3	<2.0	2.4	2.6	210	<2.0	<2.0
	9/3/2010	<10	<2.0	<2.0	2.3	<2.0	2.3	2.3	220	<2.0	<2.0
	12/22/2010	<10	<2.0	<2.0	2.4	<2.0	2.3	3.1	240	<2.0	<2.0
	2/24/2011	<10	<2.0	<2.0	2.0	<2.0	<2.0	2.6	240	<2.0	<2.0
	5/10/2011 ⁽²⁾	<10	<2.0	<2.0	<2.0	<2.0	<2.0	2.3	250	<2.0	<2.0
7/28/2011	<10	<2.0	<2.0	2.0	<2.0	2.2	2.4	280	<2.0	<2.0	
MW-03s (9-14')	3/13/2009	<10	9.1	<2.0	240	9.1	<2.0	<2.0	<2.0	140	
	4/20/2009	--	18	<10	490	18	<10	<10	<10	210	
	12/8/2009	<120	46	<25	2,200	83	<25	<25	<25	130	
	3/17/2010	<25	11	<5.0	460	17	<5.0	<5.0	<5.0	42	
	5/18/2010	<25	14	<5.0	630	24	<5.0	<5.0	<5.0	34	
	9/3/2010	<50	29	<10	1,600	63	<10	<10	<10	83	
	12/22/2010	<50	32	<10	1,800	82	<10	<10	<10	70	
	2/25/2011	<100	33	<20	2,200	110	<20	<20	<20	75	
	5/10/2011 ⁽²⁾	<100	25	<20	1,600	77	<20	<20	<20	52	
7/28/2011	<100	23	<20	1,700	78	<20	<20	<20	65		
DUP-01 (MW-03s)	12/8/2009	<120	42	<25	2,000	73	<25	<25	<25	120	

Notes:

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1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

2) The average temperature in this sample shipment exceeded the recommended temperature range. Sample results are approximate.

3) Quality control results for trichloroethene are outside the established control limits, the result is approximate.

Table 4
Summary of Detected Volatile Organic Compounds in Monitoring Wells
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride	
Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0	
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0	
Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0	
Non-Residential GWSL for Vapor Intrusion	6.4E+06	440	550	610	460	37	21,000	190	510	17	
Residential GVIAC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100	
Non-Residential GVIAC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000	
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
MW-04s (15-20')	3/13/2009	<120	<25	<25	2,100	70	<25	<25	5,000	<25	460
	4/20/2009	--	<100	<100	1,700	<100	<100	<100	4,000	--	520
	12/9/2009	<250	<50	<50	2,500	90	<50	<50	7,100	<50	270
	3/17/2010	<250	<50	<50	2,900	82	<50	<50	7,500	<50	520
	5/18/2010	<250	<50	<50	2,100	58	<50	<50	4,700	<50	280
	9/3/2010	<250	<50	<50	2,400	70	<50	<50	5,200	<50	200
	12/22/2010	<250	<50	<50	2,700	91	<50	<50	6,700	<50	270
	2/25/2011	<250	<50	<50	2,500	82	<50	<50	5,900	<50	280
	5/11/2011 ⁽²⁾	<250	<50	<50	1,900	58	<50	<50	4,600	<50	270
7/28/2011	<250	<50	<50	1,700	50	<50	<50	4,600	<50	190	
MW-05s (25-30')	3/13/2009	<5.0	<1.0	<1.0	<1.0	<1.0	3.5	<1.0	120	<1.0	<1.0
	4/20/2009	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	140	--	<5.0
	12/10/2009	<5.0	<1.0	<1.0	<1.0	<1.0	5.3	<1.0	190	<1.0	<1.0
	3/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	6.3	<1.0	160	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	4.6	<1.0	160	<1.0	<1.0
	9/3/2010	<5.0	<1.0	<1.0	<1.0	<1.0	4.6	<1.0	140	<1.0	<1.0
	12/21/2010	<5.0	<1.0	<1.0	<1.0	<1.0	4.9	<1.0	160	<1.0	<1.0
	2/24/2011	<5.0	<1.0	<1.0	<1.0	<1.0	4.4	<1.0	130	<1.0	<1.0
5/13/2011	<5.0	<1.0	<1.0	<1.0	<1.0	4.9	<1.0	160	<1.0	<1.0	
7/27/2011	<5.0	<1.0	<1.0	<1.0	<1.0	4.8	<1.0	150	<1.0	<1.0	
MW-06s (24-29')	3/16/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	21	<1.0	<1.0
	4/20/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	23	--	<1.0
	12/9/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	37	<1.0	<1.0
	3/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	31	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	33	<1.0	<1.0
	9/3/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	29	<1.0	<1.0
	12/21/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	34	<1.0	<1.0
	2/18/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	35	<1.0	<1.0
5/10/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	27	<1.0	<1.0	
7/27/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	27	<1.0	<1.0	

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Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0	
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Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0	
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Residential GVIAIC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100	
Non-Residential GVIAIC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000	
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
MW-07s (23.5-28.5')	3/16/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	10	<1.0	<1.0
	4/20/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	11	--	<1.0
	12/10/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	14	<1.0	<1.0
	3/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	13	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	13	<1.0	<1.0
	9/3/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	12	<1.0	<1.0
	12/21/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	16	<1.0	<1.0
	2/24/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	12	<1.0	<1.0
	5/13/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	12	<1.0	<1.0
7/27/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	11	<1.0	<1.0	
MW-08s (23.5-28.5')	3/16/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0
	4/20/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10	--	<1.0
	12/10/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0
DUP-01 (MW-08s)	4/20/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10	--	<1.0
MW-09s (7-12')	3/16/2009	<100	<20	<20	<20	<20	<20	160	1,700	<20	<20
	4/20/2009	--	<100	<100	<100	<100	<100	220	2,100	--	<100
	12/9/2009	<100	<20	<20	<20	<20	<20	150	2,400	<20	<20
	3/18/2010	<100	<20	<20	<20	<20	<20	120	1,500	<20	<20
	5/18/2010	<100	<20	<20	<20	<20	<20	120	1,700	<20	<20
	9/8/2010	<100	<20	<20	<20	<20	<20	120	1,700	<20	<20
	2/25/2011	<50	<10	<10	<10	<10	<10	84	1,100	<10	<10
5/11/2011 ⁽²⁾	<50	<10	<10	<10	<10	<10	83	1,200	<10	<10	
MW-10s (8-13')	5/15/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/9/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/20/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
DUP-02 (MW-10s)	5/15/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-10d (14-19')	12/9/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	

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Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0
Non-Residential GWSL for Vapor Intrusion	6.4E+06	440	550	610	460	37	21,000	190	510	17
Residential GVIAIC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100
Non-Residential GVIAIC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

MW-11s (29-34')	5/14/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/13/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-02 (MW-11s)	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
DUP-01 (MW-11s)	9/3/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-12s (12-17')	5/15/2009	--	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0
	12/30/2009	<5.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0
7/20/2011	<5.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	
MW-12d (33-38')	3/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/20/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-13s (13-18')	5/15/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/10/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/20/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	

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Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
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Residential GVIAC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100
Non-Residential GVIAC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

MW-14s (4-9')	5/14/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/8/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/11/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-14d (37.5-42.5')	7/21/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/23/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-01 (MW-14d)	5/9/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/21/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15s (30-35')	5/15/2009	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/30/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/25/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-17s (3-8')	7/23/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/7/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/11/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/21/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	

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Residential GVIAIC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100
Non-Residential GVIAIC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

MW-18s (26-31')	12/8/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/22/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-19s (25-30')	12/8/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	31	<1.0	<1.0
	1/13/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	2.3	<1.0	<1.0
	3/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.7	36	<1.0
	5/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	32	<1.0	<1.0
	9/8/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	1.8	33	<1.0
	12/20/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	37	<1.0	<1.0
	2/18/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.8	41	<1.0
	5/10/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	28	<1.0	<1.0
7/25/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	1.4	27	<1.0	
DUP-03 (MW-19s)	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	1.0	1.7	32	<1.0	<1.0
DUP-02 (MW-19s)	2/18/2011	<5.0	<1.0	<1.0	<1.0	<1.0	1.1	1.8	39	<1.0	<1.0
	5/10/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	29	<1.0	<1.0
	7/25/2011	<5.0	<1.0	<1.0	<1.0	<1.0	1.1	1.4	27	<1.0	<1.0
MW-19d (40-45')	12/8/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/18/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/10/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/25/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
DUP-01 (MW-19d)	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-20s (8-13')	12/30/2009	<5.0	48	4.0	9.6	<1.0	<1.0	150	71	2.9	<1.0
	1/13/2010	<5.0	50	3.5	9.0	<1.0	<1.0	170	70	2.8	<1.0
	3/17/2010	<5.0	51	3.8	9.4	<1.0	<1.0	160	64	3.2	<1.0
	5/18/2010	<10	58	5.1	12	<2.0	<2.0	210	94	3.4	<2.0
	9/9/2010	<10	34	4.2	10	<2.0	<2.0	230	110	3.8	<2.0
	12/21/2010	<10	24	3.6	6.1	<2.0	<2.0	200	89	3.6	<2.0
	2/18/2011	<10	19	3.3	5.5	<2.0	<2.0	190	93	3.5	<2.0
	5/13/2011	<10	14	2.8	4.1	<2.0	<2.0	190	91	2.9	<2.0
7/25/2011	<10	6.5	<2.0	2.4	<2.0	<2.0	190	100	2.3	<2.0	

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Bold font denotes concentrations detected above laboratory reporting limits

Green background denotes concentrations above one or more criteria

¹⁾ Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

²⁾ The average temperature in this sample shipment exceeded the recommended temperature range. Sample results are approximate.

³⁾ Quality control results for trichloroethene are outside the established control limits, the result is approximate.

Table 4
Summary of Detected Volatile Organic Compounds in Monitoring Wells
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride	
Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0	
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0	
Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0	
Non-Residential GWSL for Vapor Intrusion	6.4E+06	440	550	610	460	37	21,000	190	510	17	
Residential GVIAC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100	
Non-Residential GVIAC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000	
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
MW-20d (38.5-43.5')	12/30/2009	<5.0	1.2	<1.0	86	<1.0	<1.0	1.9	<1.0	<1.0	3.5
	1/13/2010	<5.0	<1.0	<1.0	94	2.0	<1.0	<1.0	<1.0	<1.0	3.7
	3/17/2010	<5.0	<1.0	<1.0	85	<1.0	<1.0	<1.0	<1.0	<1.0	4.4
	5/18/2010	<5.0	<1.0	<1.0	120	<1.0	<1.0	<1.0	<1.0	<1.0	3.7
	9/8/2010	<5.0	<1.0	<1.0	95	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/21/2010	<5.0	<1.0	<1.0	200	<1.0	<1.0	<1.0	<1.0	<1.0	3.5
	2/18/2011	<10	<2.0	<2.0	190	<2.0	<2.0	<2.0	<2.0	<2.0	3.2
	5/13/2011	<10	<2.0	<2.0	170	<2.0	<2.0	<2.0	<2.0	<2.0	2.6
DUP-03 (MW-20d)	5/18/2010	<5.0	<1.0	<1.0	120	1.0	<1.0	<1.0	<1.0	<1.0	3.7
MW-21 (28.5-33.5')	12/8/2009	<50	31	<10	59	<10	<10	54	840	<10	<10
	1/13/2010	<50	28	<10	62	<10	<10	56	730	<10	<10
	3/23/2010	<5.0	33	2.2	81	7.5	<1.0	62	850	<1.0	<1.0
	5/18/2010	<50	35	<10	89	<10	<10	63	830	<10	<10
	10/15/2010	<50	26	<10	80	<10	<10	59	810	<10	<10
	12/22/2010	<50	25	<10	69	<10	<10	55	730	<10	<10
	2/24/2011	<50	25	<10	66	<10	<10	52	730	<10	<10
	5/11/2011 ⁽²⁾	<50	24	<10	65	<10	<10	49	740	<10	<10
7/28/2011	<50	22	<10	77	<10	<10	54	1,000	<10	<10	
DUP-02 (MW-21)	3/23/2010	<5.0	33	2.2	79	7.8	<1.0	61	810	<1.0	<1.0
DUP-03 (MW-21)	2/24/2011	<50	24	<10	66	<10	<10	50	740	<10	<10
	5/11/2011 ⁽²⁾	<50	24	<10	66	<10	<10	49	750	<10	<10
	7/28/2011	<50	23	<10	78	<10	<10	57	1,000	<10	<10
MW-22 (25-30')	12/7/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
	3/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.5
	5/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0
	9/9/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.3
	12/22/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.0
	2/24/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.3
	5/11/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4
7/21/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.8	

Notes:

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2) The average temperature in this sample shipment exceeded the recommended temperature range. Sample results are approximate.

3) Quality control results for trichloroethene are outside the established control limits, the result is approximate.

Table 4
Summary of Detected Volatile Organic Compounds in Monitoring Wells
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride	
Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0	
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0	
Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0	
Non-Residential GWSL for Vapor Intrusion	6.4E+06	440	550	610	460	37	21,000	190	510	17	
Residential GVIAIC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100	
Non-Residential GVIAIC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000	
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
MW-23 (17-22')	12/8/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.2
	1/13/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.6
	3/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.0
	5/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.1
	9/9/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	9.0
	12/21/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	17
	2/18/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	18
	5/10/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	25
7/25/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	23	
MW-24s (18.5'-23.5')	12/8/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/19/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-24d (39-44')	12/8/2009	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7/19/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
MW-25s (20-25')	12/10/2009	<5.0	1.7	<1.0	8.8	<1.0	<1.0	4.8	<1.0	<1.0	<1.0
	3/16/2010	<5.0	1.2	<1.0	<1.0	<1.0	<1.0	17	1.1	<1.0	<1.0
	5/14/2010	<5.0	1.2	<1.0	<1.0	<1.0	<1.0	18	1.0	<1.0	<1.0
	9/9/2010	<5.0	1.0	<1.0	<1.0	<1.0	<1.0	19	1.4	<1.0	<1.0
	12/22/2010	<5.0	1.2	<1.0	<1.0	<1.0	<1.0	26	2.4	<1.0	<1.0
	2/24/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	19	2.2	<1.0	<1.0
	5/13/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	21	2.2	<1.0	<1.0
7/28/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	19	2.5	<1.0	<1.0	
DUP-01 (MW-25s)	3/16/2010	<5.0	1.3	<1.0	<1.0	<1.0	<1.0	18	1.0	<1.0	<1.0

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Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0
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Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

MW-26s (28-33')	4/6/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-27s (7-12')	7/25/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/23/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	<1.0	<1.0
	9/9/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0
DUP-02 (MW-27s)	5/9/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0
	7/21/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-27d (37.5-42.5')	9/9/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/23/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-28s (25-30')	5/9/2011 ⁽²⁾	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/22/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/23/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-28d (49-54')	2/16/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/22/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/23/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

Residential and Non-Residential Drinking Water (DW) Criteria, Residential and Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC) and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDNRE Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_gSLs) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA). Proposed GWSLs were approved by USEPA in a comment letter dated, August 24, 2010.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

Green background Denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

2) The average temperature in this sample shipment exceeded the recommended temperature range. Sample results are approximate.

3) Quality control results for trichloroethene are outside the established control limits, the result is approximate.

Table 4
Summary of Detected Volatile Organic Compounds in Monitoring Wells
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0
Non-Residential GWSL for Vapor Intrusion	6.4E+06	440	550	610	460	37	21,000	190	510	17
Residential GVIAIC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100
Non-Residential GVIAIC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L

MW-29s (13-18')	3/18/2010	<5.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/17/2010	<5.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/15/2010	<5.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-29d (58.5-63.5')	3/18/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/15/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-30s (11-16')	3/23/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/13/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-30d (25.5-30.5')	3/23/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/10/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/13/2011	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-31 (33.3-38.3')	6/18/2010	<5.0	14	<1.0	19	2.2	<1.0	20	180	<1.0	<1.0
	9/9/2010	<10	<2.0	<2.0	15	<2.0	<2.0	48	220	<2.0	2.5
	12/22/2010 ⁽³⁾	<10	16	<2.0	29	2.9	<2.0	27	260	<2.0	<2.0
	2/24/2011	<10	16	<2.0	31	3.1	<2.0	26	300	<2.0	<2.0
	5/11/2011 ⁽²⁾	<10	15	<2.0	24	3.0	<2.0	22	250	<2.0	<2.0
	7/21/2011	<5.0	7.4	<1.0	14	1.2	<1.0	11	130	<1.0	<1.0
DUP-01 (MW-31)	6/18/2010	<5.0	12	<1.0	19	2.3	<1.0	21	170	<1.0	<1.0

Notes:

Residential and Non-Residential Drinking Water (DW) Criteria, Residential and Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC) and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDNRE Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_vSLS) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA). Proposed GWSLs were approved by USEPA in a comment letter dated, August 24, 2010.

ug/L = micrograms per liter

NC = No criteria

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Bold font denotes concentrations detected above laboratory reporting limits

Green background Denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

2) The average temperature in this sample shipment exceeded the recommended temperature range. Sample results are approximate.

3) Quality control results for trichloroethene are outside the established control limits, the result is approximate.

Table 4
 Summary of Detected Volatile Organic Compounds in Monitoring Wells
 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Analyte	2-Butanone	1,1-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride	
Residential DW Criteria	13,000	880	7.0	70	100	5.0	200	5.0	2,600	2.0	
Non-Residential DW Criteria	38,000	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0	
Residential GWSL for Vapor Intrusion	4.6E+06	130	390	440	330	11	15,000	58	370	5.0	
Non-Residential GWSL for Vapor Intrusion	6.4E+06	440	550	610	460	37	21,000	190	510	17	
Residential GVIAC	2.4E+08	1.0E+06	200	93,000	85,000	25,000	6.6E+05	15,000	1.1E+06	1,100	
Non-Residential GVIAC	2.4E+08	2.3E+06	1,300	2.1E+05	2.0E+05	1.7E+05	1.3E+06	97,000	1.1E+06	13,000	
Groundwater Contact Criteria	2.4E+08	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
MW-32s (23-28')	9/10/2010	<100	150	<20	270	26	<20	220	2,400	<20	<20
	11/18/2010	<100	<20	<20	190	<20	<20	560	2,800	<20	<20
	12/28/2010	<100	<20	<20	200	<20	<20	510	2,300	<20	<20
	2/25/2011	<100	<20	<20	190	<20	<20	420	2,300	<20	<20
	5/10/2011 ⁽²⁾	<100	<20	<20	170	<20	<20	380	2,300	<20	31
	7/28/2011	<100	<20	<20	140	<20	<20	380	2,400	<20	<20
MW-33s (21-26')	9/10/2010	<5.0	12	<1.0	13	<1.0	<1.0	76	<1.0	64	
	11/18/2010	<5.0	14	<1.0	22	<1.0	<1.0	1.1	150	<1.0	56
	12/22/2010	<5.0	14	<1.0	22	1.2	<1.0	1.0	130	<1.0	57
	2/24/2011	<5.0	12	<1.0	20	1.0	<1.0	110	<1.0	60	
	5/10/2011 ⁽²⁾	<10	11	<2.0	21	<2.0	<2.0	<2.0	220	<2.0	55
	7/28/2011	<10	8.9	<2.0	18	<2.0	<2.0	<2.0	260	<2.0	22
DUP-01 (MW-33s)	11/18/2010	<5.0	14	<1.0	23	<1.0	<1.0	1.2	150	<1.0	55
MW-34s (23-28')	9/17/2010	<100	<20	<20	<20	<20	<20	1,600	1,100	<20	<20
	11/18/2010	<100	<20	<20	<20	<20	<20	1,600	1,200	<20	<20
	12/28/2010	<50	<10	13	<10	<10	<10	1,400	1,000	<10	<10
	2/25/2011	<50	<10	<10	<10	<10	<10	1,100	900	<10	<10
	5/10/2011 ⁽²⁾	<50	<10	<10	<10	<10	<10	1,200	970	<10	<10
	9/17/2010	<5.0	1.1	<1.0	69	5.9	<1.0	<1.0	<1.0	<1.0	<1.0
7/28/2011	<50	<10	<10	<10	<10	<10	1,300	1,100	<10	<10	

Notes:

Residential and Non-Residential Drinking Water (DW) Criteria, Residential and Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAC) and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDNRE Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GWSLs) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA). Proposed GWSLs were approved by USEPA in a comment letter dated, August 24, 2010.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

Green background Denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

2) The average temperature in this sample shipment exceeded the recommended temperature range. Sample results are approximate.

3) Quality control results for trichloroethene are outside the established control limits, the result is approximate.

Table 5
 Summary of Chlorinated Volatile Organic Compounds in On-Site Indoor Air
 Tecumseh Products Company
 Tecumseh, Michigan

Analyte	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	
95th Percentile Background Indoor Air Concentration ⁽¹⁾	<0.06	0.05	0.18	0.30	NA	1.4	5.0	0.63	0.04	
Long-term (30-yr) Residential Indoor Air Criteria ⁽²⁾	3.8	0.23	52	9.1	16	0.62	940	2.3	1.1	
Long-term (25-yr) Non-Residential Indoor Air Criteria ⁽²⁾	13	0.79	73	13	22	2.1	1,300	7.8	3.6	
Short-term (5-yr) Non-Residential Indoor Air Criteria ⁽³⁾	64	3.9	73	13	22	10	1,300	39	18	
OHSA PELs ⁽⁴⁾	100,000	50,000	NC	200,000	200,000	100,000	350,000	100,000	1,000	
Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	
IA-01 (SV-07)	1/4/2010	<0.70	<0.70	<0.70	<0.70	<1.3	<0.70	<0.70	16.0	<0.68
	2/2/2010 ⁽⁵⁾	<0.70	<0.70	<0.70	<0.70	<1.3	<0.70	<0.70	<0.70	<0.68
IA-02 (SV-08)	1/4/2010	<0.70	<0.70	<0.70	<0.70	<1.3	<0.70	<0.70	19.8	<0.68
	2/2/2010 ⁽⁵⁾	<0.77	<0.77	<0.77	<0.77	<1.5	<0.77	<0.77	4.3	<0.75
IA-03 (SV-09)	1/4/2010	<0.74	<0.74	<0.74	<0.74	<1.4	<0.74	<0.74	15.6	<0.73
	2/2/2010 ⁽⁵⁾	<0.80	<0.80	<0.80	<0.80	<1.5	<0.80	<0.80	2.6	<0.79
IA-04 (SV-10)	1/4/2010	<0.70	<0.70	<0.70	<0.70	<1.3	<0.70	<0.70	8.7	<0.68
	2/2/2010 ⁽⁵⁾	<0.77	<0.77	<0.77	<0.77	<1.5	<0.77	<0.77	2.7	<0.75
IA-05 (SV-18)	1/4/2010	<0.74	<0.74	<0.74	<0.74	<1.4	<0.74	<0.74	10.8	<0.73
	2/2/2010 ⁽⁵⁾	<0.80	<0.80	<0.80	<0.80	<1.5	<0.80	<0.80	3.0	<0.79
IA-06	2/2/2010 ⁽⁵⁾	<0.77	<0.77	<0.77	<0.77	<1.5	<0.77	<0.77	<0.77	<0.75
IA-07	2/2/2010 ⁽⁵⁾	<0.80	<0.80	<0.80	<0.80	<1.5	<0.80	<0.80	4.0	<0.79
IA-08	2/2/2010 ⁽⁵⁾	<0.96	<0.96	<0.96	<0.96	<1.8	<0.96	<0.96	<0.96	<0.94
IA-09 (SV-06)	3/25/2010	<0.65	<0.65	<0.65	<0.65	<1.2	<0.65	2.5	13.5	<0.64
IA-10 (SV-03)	3/25/2010	<0.65	<0.65	<0.65	<0.65	<1.2	<0.65	5.3	10.4	<0.64
IA-11 (SV-11)	3/25/2010	<0.65	<0.65	<0.65	<0.65	<1.2	<0.65	4.8	19.1	<0.64
IA-12 (SV-12)	3/25/2010	<0.72	<0.72	<0.72	<0.72	<1.4	<0.72	7.0	9.8	<0.70
IA-13 (SV-13)	3/25/2010	<0.70	0.83	<0.70	<0.70	<1.3	<0.70	10.8	8.5	<0.68
IA-14 (SV-14)	3/25/2010	<0.70	<0.70	<0.70	<0.70	<1.3	<0.70	6.3	8.0	<0.68
IA-15 (SV-15)	3/25/2010	<0.65	1.5	<0.65	<0.65	<1.2	<0.65	19.2	14.4	<0.64
IA-16 (SV-16)	3/25/2010	<0.70	0.83	<0.70	<0.70	<1.3	<0.70	10.1	10.0	<0.68
IA-17 (SV-17)	3/25/2010	<0.65	0.65	<0.65	<0.65	<1.2	<0.65	8.4	17.4	<0.64
IA-18 (SV-02)	3/25/2010	<0.70	<0.70	<0.70	<0.70	<1.3	<0.70	3.1	17.1	<0.68
IA-18 (SV-02) DUP-01	3/25/2010	<0.65	<0.65	<0.65	<0.65	<1.2	<0.65	3.0	18.6	<0.64
IA-19 (SV-01)	3/25/2010	<0.70	<0.70	<0.70	<0.70	<1.3	<0.70	<0.70	2.2	<0.68

Notes:

- 1) Background indoor air concentrations taken from the USEPA Report titled "Background Indoor Air Concentrations of Volatile Organic Compounds in North American Residences (1990-2005): A Compilation of Statistics for Assessing Vapor Intrusion, EPA 530-R-10-001, dated June 2011.
- 2) Long-Term Indoor Air Criteria were calculated according the methods described in the MDNRE document titled "Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_vSLs). The most recent chemical specific toxicity values accepted and/or published by the USEPA were used in the calculations, and in accordance with USEPA comments received April 8, 2010 IAC calculations were revised such that the non-residential exposure frequency is 250 days per year and the exposure duration is 25 years.
- 3) Short-Term Indoor Air Criteria were calculated as described above using an exposure duration of 5 years rather than 25 years.
- 4) United States Department of Labor, Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs) over an 8-hour period (time weighted average).
- 5) Samples collected on February 2, 2010 were taken during a ventilation test. Sample results are not representative of current, stagnant indoor air conditions.

Bold font denotes concentrations detected above laboratory reporting limits.

Denotes concentrations above one or more applicable non-residential indoor air criterion.

ppbv = parts per billion by volume

NC = No Criteria

Table 6
 Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Analyte	n-Butyl Benzene	sec-Butylbenzene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene ⁽¹⁾	4-Isopropyl-toulene	2-Methyl-naphthalene	Naphthalene	n-Propyl Benzene ⁽¹⁾	Tetra-chloroethene	Toluene ⁽¹⁾	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Tri-methylbenzene ⁽¹⁾	1,3,5-Tri-methylbenzene ⁽¹⁾	Vinyl Chloride	Total Xylenes ⁽¹⁾	
Residential DCC	2.5E+06	2.5E+06	6.4E+05	1.4E+06	1.4E+05	NC	8.1E+06	1.6E+07	2.5E+06	88,000	2.5E+05	4.6E+05	1.8E+05	5.0E+05	1.1E+05	94,000	3,800	1.5E+05	
Non-Residential DCC	8.0E+06	8.0E+06	6.4E+05	1.4E+06	1.4E+05	NC	2.6E+07	5.2E+07	8.0E+06	88,000	2.5E+05	4.6E+05	8.4E+05	5.0E+05	1.1E+05	94,000	34,000	1.5E+05	
Residential SVIAC	NC	NC	22,000	23,000	87,000	NC	2.7E+06	2.5E+05	NC	11,000	2.5E+05	2.5E+05	4,600	7,100	1.1E+05	94,000	270	1.5E+05	
Non-Residential SVIAC	NC		41,000	43,000	1.4E+05	NC	4.9E+06	4.7E+05	NC	60,000	2.5E+05	4.6E+05	24,000	37,000	1.1E+05	94,000	2,800	1.5E+05	
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg			ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	
NS-01 (0-4')	4/17/2009	<39	--	<39	<39	<39	--	--	480	<39	<39	<39	<39	1,900	<39	<39	<39	<117	
NS-01 (16-20')	4/17/2009	<25	--	<25	<25	<25	--	--	<250	<25	<25	<25	<25	510	<25	<25	<25	<75	
NS-02 (0-4')	4/16/2009	<27	--	<27	<27	<27	--	--	<270	<27	<27	<27	<27	350	<27	<27	<27	<80	
NS-02 (8-12')	4/16/2009	<27	--	<27	<27	<27	--	--	<270	<27	<27	<27	<27	750	<27	<27	<27	<81	
NS-04 (8-12')	4/16/2009	<29	--	<29	<29	<29	--	--	<290	<29	<29	<29	<29	<29	<29	<29	<29	<86	
NS-05 (12-14')	4/20/2009	<33	--	58	<33	<33	--	--	<330	<33	40	<33	33	<33	4,500	<33	<33	<99	
NS-06 (2-3')	4/20/2009	<26	--	9,600	230	140	--	--	310	430	510	82	<26	<26	5,200	4,000	1,400	140	1,070
NS-06 (23-24')	4/20/2009	<30	--	<30	<30	<30	--	--	<300	<30	<30	<30	<30	520	<30	<30	<30	<90	
NS-07 (10-11')	4/21/2009	<29	--	<29	<29	<29	--	--	<290	<29	340	<29	<29	1,500	<29	<29	<29	<87	
NS-07 (10-11') DUP-3	4/21/2009	<24	--	<24	<24	<24	--	--	<240	<24	320	<24	<24	1,400	<24	<24	<24	<72	
NS-08 (15-16')	4/21/2009	<63	--	<63	<63	<63	--	--	<630	<63	830	<63	<63	4,300	<63	<63	<63	<193	
NS-09 (2-3')	4/21/2009	1,200	--	4,900	77	88	--	--	1,200	370	<30	86	<30	310	5,400	1,900	480	720	
NS-10 (8-9')	4/21/2009	9,100	--	880	<430	1,200	--	--	14,000	4,000	450	920	<430	<430	<430	34,000	9,700	<430	6,700
NS-10 (10-11')	4/21/2009	910	--	340	<27	110	--	--	1,500	360	28	90	<27	<27	61	3,100	980	72	660
NS-11 (0-4')	9/15/2010	<58	<58	<58	<58	<58	<120	<380	<380	<120	59	<120	<58	<58	770	<120	<120	<47	<178
NS-11 (22-23')	9/15/2010	<51	<51	<51	<51	<51	<100	<340	<340	<100	310	<100	<51	<51	4,100	<100	<100	<41	<151
NS-12 (0-2')	9/15/2010	150	100	<53	<53	<53	<110	<350	<350	<110	190	<110	<53	<53	880	<110	<110	<42	<163
NS-12 (22-24')	9/15/2010	<52	<52	<52	<52	<52	<100	<340	<340	<100	120	<100	<52	<52	2,000	<100	<100	<42	<152
NS-13 (0.5-4')	9/16/2010	<55	<55	<55	<55	<55	<110	<360	<360	<110	<55	<110	<55	<55	1,900	<110	<110	<44	<165
NS-13 (21-23')	9/16/2010	<140	<140	170	<140	<140	<280	<920	<920	<280	<140	<280	200	<140	17,000	<280	<280	<110	<420
NS-14 (0.5-3.5')	9/17/2010	<58	<58	<58	<58	<58	<120	<380	<380	<120	<58	<120	<58	<58	640	<120	<120	<47	<178
NS-14 (22-23')	9/17/2010	<260	<260	<260	<260	<260	<520	<1,700	<1,700	<520	<260	<260	<260	<260	18,000	<520	<520	<210	<780
NS-15 (2-4')	9/17/2010	1,400	1,100	6,700	<570	<570	<1100	<3,700	<3,700	<1,100	630	<1,100	<570	<570	72,000	<1,100	<1,100	<450	<1670
NS-15 (19-20')	9/17/2010	<100	<100	350	<100	<100	<210	<680	<680	<210	130	<210	<100	<100	18,000	<210	<210	<83	<310
NS-16 (2-4')	9/17/2010	<57	<57	<57	<57	<57	<110	<380	<380	<110	<57	<110	<57	<57	1,700	<110	<110	<46	<167
NS-16 (19-20')	9/17/2010	<260	<260	470	<260	<260	<520	<1,700	<1,700	<520	<260	<520	<260	<260	33,000	<520	<520	<210	<780
NS-17 (0.5-2.0')	9/17/2010	<1,000	<1,000	<1,000	<1,000	<1,000	<2100	<6,900	<6,900	<2,100	<1,000	<2,100	<1,000	<1000	100,000	<2,100	<2,100	<840	<3,100
NS-17 (22-23')	9/17/2010	<52	<52	<52	<52	<52	<100	<340	<340	<100	240	<100	230	<52	2,100	<100	<100	<41	<152
SS-01 (1-1.5')	4/15/2009	<32	--	<32	<32	<32	--	--	<320	<32	<32	840	<32	1,900	<32	<32	<32	<96	
SS-02 (8-12')	4/16/2009	<29	--	<29	<29	<29	--	--	<290	<29	69	<29	<29	970	<29	<29	<29	<87	
SS-02 (16-20')	4/16/2009	<29	--	<29	<29	<29	--	--	<290	<29	110	<29	<29	1,300	<29	<29	<29	<88	
SS-02 (16-20') DUP-01	4/16/2009	<32	--	<32	<32	<32	--	--	<320	<32	160	<32	<32	1,900	<32	<32	<32	<96	
SS-03 (8-12')	4/16/2009	<30	--	<30	<30	<30	--	--	<300	<30	1,100	<30	<35	900	<30	<30	<30	<91	
SS-03 (16-20')	4/16/2009	<35	--	<35	<35	<35	--	--	<350	<35	3,900	<35	<30	2,800	<35	<35	<35	<105	
SS-04 (8-12')	4/17/2009	<120	--	<120	<120	<120	--	--	<1,200	<120	490	<120	<120	4,400	<120	<120	<120	<350	
SS-04 (12-16')	4/17/2009	<30	--	<30	<30	<30	--	--	<300	<30	230	<30	<30	3,500	<30	<30	<30	<90	
SS-05 (3-4')	4/17/2009	<130	--	<130	<130	<130	--	--	<1,300	<130	240	<130	<130	13,000	<130	<130	<130	<390	
SS-05 (12-13')	4/17/2009	<30	--	<30	<30	<30	--	--	<300	<30	130	<30	<30	4,400	<30	<30	<30	<91	
SS-05 (20-21')	4/17/2009	<26	--	<26	<26	<26	--	--	<260	<26	180	<26	<26	7,700	<26	<26	<26	<78	
SS-06 (5-7')	4/17/2009	<34	--	<34	<34	<34	--	--	<340	<34	<34	<34	<34	230	<34	<34	<34	<101	
SS-06 (5-7') DUP-02	4/17/2009	<40	--	<40	<40	<40	--	--	<400	<40	<40	<40	<40	320	<40	<40	<40	<120	
SS-07 (21-22')	4/20/2009	<35	--	<35	<35	<35	--	--	<350	<35	<35	<35	<35	1,600	<35	<35	<35	<106	
SS-08 (19-20')	4/21/2009	<130	--	<130	<130	<130	--	--	<1,300	<130	250	<130	<130	7,300	<130	<130	<130	<390	

Notes:
 Residential and Non-Residential Direct Contact Criteria (DCC) and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation Criteria (SVIAC) from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011.

ug/kg = micrograms per kilogram
 NC = No Criteria
 -- = Not Analyzed
 bold font denotes concentrations detected above laboratory reporting limits
 Denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

Table 6
 Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Analyte	n-Butyl Benzene	sec-Butylbenzene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene ⁽¹⁾	4-Isopropyl-toluene	2-Methyl-naphthalene	Naphthalene	n-Propyl Benzene ⁽¹⁾	Tetra-chloroethene	Toluene ⁽¹⁾	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Tri-methylbenzene ⁽¹⁾	1,3,5-Tri-methylbenzene ⁽¹⁾	Vinyl Chloride	Total Xylenes ⁽¹⁾	
Residential DCC	2.5E+06	2.5E+06	6.4E+05	1.4E+06	1.4E+05	NC	8.1E+06	1.6E+07	2.5E+06	88,000	2.5E+05	4.6E+05	1.8E+05	5.0E+05	1.1E+05	94,000	3,800	1.5E+05	
Non-Residential DCC	8.0E+06	8.0E+06	6.4E+05	1.4E+06	1.4E+05	NC	2.6E+07	5.2E+07	8.0E+06	88,000	2.5E+05	4.6E+05	8.4E+05	5.0E+05	1.1E+05	94,000	34,000	1.5E+05	
Residential SVIAC	NC	NC	22,000	23,000	87,000	NC	2.7E+06	2.5E+05	NC	11,000	2.5E+05	2.5E+05	4,600	7,100	1.1E+05	94,000	270	1.5E+05	
Non-Residential SVIAC	NC		41,000	43,000	1.4E+05	NC	4.9E+06	4.7E+05	NC	60,000	2.5E+05	4.6E+05	24,000	37,000	1.1E+05	94,000	2,800	1.5E+05	
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg			ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	
MW-32s (0.5-1.5')	9/15/2010	<58	<58	<58	<58	<58	<120	<380	<380	<120	<58	<120	92	<58	1,200	<120	<120	<46	<178
MW-32s (22-24')	9/15/2010	<230	<230	<230	<230	<230	<460	<1,500	<1,500	<460	490	<460	1,800	<230	26,000	<460	<460	<180	<690
MW-33s (1-3')	9/15/2010	1,800	490	7,500	590	<53	530	4,500	2,600	530	820	<110	<53	300	5,700	3,900	1,200	410	560
MW-33s (19-22')	9/15/2010	<240	<240	<240	<240	<240	<490	<1,600	<1,600	<490	470	<490	<240	<240	19,000	<490	<490	<200	<730
MW-33s (19-22') DUP-01	9/15/2010	<100	<100	<100	<100	<100	<210	<680	<680	<210	260	<210	<100	<100	10,000	<210	<210	<83	<310
MW-34s (0.5-2.5')	9/16/2010	<49	<49	<49	<49	<49	<97	<320	<320	<97	<49	<97	740	<49	1,200	<97	<97	<39	<146
MW-34s (21-23')	9/16/2010	<130	<130	<130	<130	<130	<260	<850	<850	<260	330	<260	9,600	<130	14,000	<260	<260	<100	<390
B-58 (3-4')	4/1/2011	--	--	--	--	<59	--	--	--	--	--	<59	--	--	--	--	--	--	<180
B-58 (3-4') DUP-01	4/1/2011	--	--	--	--	<60	--	--	--	--	--	<60	--	--	--	--	--	--	<180
B-58 (6-7')	4/1/2011	--	--	--	--	<55	--	--	--	--	--	<55	--	--	--	--	--	--	<170
B-59 (3-4')	4/1/2011	--	--	--	--	<57	--	--	--	--	--	<57	--	--	--	--	--	--	<170
B-59 (6-7')	4/1/2011	--	--	--	--	<55	--	--	--	--	--	<55	--	--	--	--	--	--	<160
B-60 (3-4')	4/1/2011	--	--	--	--	<57	--	--	--	--	--	<57	--	--	--	--	--	--	<170
B-60 (6-7')	4/1/2011	--	--	--	--	<54	--	--	--	--	--	<54	--	--	--	--	--	--	<160
B-61 (3-4')	4/1/2011	--	--	--	--	<56	--	--	--	--	--	<56	--	--	--	--	--	--	<170
B-61 (6-7')	4/1/2011	--	--	--	--	<49	--	--	--	--	180	--	--	--	--	--	--	--	430
B-62 (1-2')	4/1/2011	--	--	--	--	<49	--	--	--	--	140	--	--	--	--	--	--	--	<150
B-62 (3-4')	4/1/2011	--	--	--	--	<55	--	--	--	--	<55	--	--	--	--	--	--	--	<160
B-63 (3-4')	4/1/2011	--	--	--	--	<51	--	--	--	--	<51	--	--	--	--	--	--	--	<150
B-63 (6-7')	4/1/2011	--	--	--	--	<54	--	--	--	--	<54	--	--	--	--	--	--	--	<160

Notes:
 Residential and Non-Residential Direct Contact Criteria (DCC) and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation Criteria (SVIAC) from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011.

ug/kg = micrograms per kilogram
 NC = No Criteria
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bold font denotes concentrations detected above laboratory reporting limits
 Denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21

Table 7
 Summary of Chlorinated Volatile Organic Compounds in On-Site Sub-Slab Soil Gas
 Tecumseh Products Company
 Tecumseh, Michigan

Analyte		1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl chloride	2-Propanol
Non-Residential Sub-Slab SGSLs ⁽¹⁾		630	39	3,600	630	1,000	100	65,000	380	180	NC
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%
SV-01	10/29/2009	30.8	<0.94	<0.94	450	6.4	9.1	554	17,100	<0.92	0.010
SV-01	1/5/2010	178	41.6	<29.4	456	<56.4	128	482	13,000	<28.8	2.2E-05
SV-02	10/29/2009	39.8	<1.0	<1.0	137	18.3	8.4	6,180	11,800	<0.98	0.025
SV-02	1/5/2010	39.3	<17.5	<17.5	187	56.7	115	1,940	3,390	<17.1	9.8E-04
SV-02	3/26/2010	<261	<261	<261	326	<502	<261	5,570	16,700	<256	<2.5E-5
SV-03 ⁽²⁾	10/29/2009	--	--	--	--	--	--	--	--	--	24
SV-03	1/5/2010	87.9	<17.5	<17.5	874	<33.6	162	532	9,500	<17.1	2.8E-04
SV-04	10/29/2009	2.3	<0.97	<0.97	<0.97	<1.9	14.9	410	2,430	<0.95	0.004
SV-04	1/5/2010	<29.4	<29.4	<29.4	<29.4	<56.4	<29.4	289	1,330	<28.8	4.2E-06
SV-05	10/29/2009	2.6	<0.87	<0.87	<0.87	<1.7	<0.87	13.0	25.9	<0.86	0.055
SV-05	1/5/2010	<29.4	<29.4	<29.4	<29.4	<56.4	<29.4	<29.4	<29.4	<28.8	1.6E-03
SV-06	10/29/2009	467	<280	<280	<280	<538	<280	8,400	12,800	<274	1.3
SV-06	1/5/2010	416	<17.5	29.9	261	<33.6	38.3	7,200	15,200	<17.1	5.4E-05
SV-06	3/26/2010	371	474	<290	<290	<557	<290	5,840	6,580	<284	<2.8E-5
SV-07	10/29/2009	<321	<321	<321	1,030	<618	<321	<321	4,120	<315	0.002
SV-07	1/5/2010	119	<17.5	<17.5	806	327	<17.5	152	1,720	<17.1	2.1E-06
SV-08	10/29/2009	<280	<280	<280	<280	<538	<280	<280	13,400	<274	0.016
SV-08	1/5/2010	33.5	<17.5	<17.5	225	256	<17.5	185	2,370	<17.1	2.0E-06
SV-09	10/29/2009	<321	<321	<321	<321	<618	<321	<321	510	<315	1.4E-04
SV-09	1/5/2010	<17.5	17.8	<17.5	<17.5	<33.6	<17.5	59.8	453	<17.1	8.4E-05
SV-10	10/29/2009	<290	<290	<290	<290	<557	<290	<290	<290	<284	0.52
SV-10	1/5/2010	<29.4	<29.4	<29.4	<29.4	<56.4	<29.4	<29.4	644	<28.8	3.7E-06
SV-11	10/29/2009	<4,470	<4,470	<4,470	<4,470	<8,600	<4,470	6,490	118,000	<4,390	8.1E-04
SV-11	1/5/2010	87.5	183	<47.0	1,010	<90.3	53.0	2,190	20,200	<46.1	7.4E-05
SV-11	3/26/2010	95.3	<18.1	<18.1	743	<34.8	<18.1	1,200	9,670	<17.7	8.60E-06
SV-12	10/29/2009	<321	<321	<321	<321	<618	<321	13,200	13,300	<315	0.002
SV-12	1/5/2010	61.1	<17.5	88.3	30.6	<33.6	<17.5	9,270	10,500	<17.1	3.9E-05
SV-12	3/26/2010	<579	<579	<579	<579	<1,110	<579	14,900	8,230	<568	<5.6E-5
SV-13	10/29/2009	<321	<321	1,160	<321	<618	<321	19,200	6,660	<315	8.4E-05
SV-13	1/5/2010	46.1	363	242	71.0	<33.6	93.8	10,900	4,840	<17.1	4.4E-06
SV-13 (DUP-01)	1/5/2010	62.5	<17.5	356	92.4	<33.6	44.2	4,810	2,810	<17.1	6.3E-04
SV-14 ⁽²⁾	10/30/2009	--	--	--	--	--	--	--	--	--	16
SV-14	1/5/2010	<29.4	<29.4	<29.4	<29.4	<56.4	<29.4	118	219	<28.8	3.2E-06
DUP-01 (SV-14)	10/30/2009	<223	<223	<223	<223	<429	<223	261	555	<219	0.39
SV-15	10/29/2009	<290	<290	4,360	<290	<557	<290	208,000	45,400	<284	1.5
SV-15	1/5/2010	468	<29.4	3,850	537	<56.4	344	436,000	103,000	<28.8	2.3E-05
SV-15	3/26/2010	<16,700	<16,700	<16,700	<16,700	<32,200	<16,700	186,000	43,600	<16,400	<1.6E-3
SV-15 (DUP-02)	3/26/2010	<16,700	<16,700	<16,700	<16,700	<32,200	<16,700	191,000	45,700	<16,400	<1.6E-3
SV-16 ⁽²⁾	10/29/2009	--	--	--	--	--	--	--	--	--	9.7
SV-16	1/5/2010	222	<17.5	93.0	551	<33.6	<17.5	3,930	5,670	<17.1	<1.7E-06
SV-16	3/26/2010	313	<280	<280	707	<538	<280	6,200	4,650	<274	<2.7E-5
SV-17	10/29/2009	<321	<321	<321	<321	<618	<321	9,320	14,700	<315	7.5E-04
SV-17	1/5/2010	<29.4	<29.4	44.9	49.3	<56.4	<29.4	7,360	7,160	<28.8	7.1E-05
SV-18	10/29/2009	2,910	<310	<310	313	1,730	<310	324	11,100	<304	1.0
SV-18	1/5/2010	762	<17.5	36.4	138	552	<17.5	91.3	6,820	<17.1	<1.7E-06

Notes:

1) Non-Residential Soil Gas Screening Levels (SGSLs) were calculated according the methods described in the MDNRE document titled "Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_vSLs). The most recent chemical specific toxicity values accepted and/or published by the USEPA were used in the calculations, and in accordance with USEPA comments received April 8, 2010 SGSL calculations were revised such that the non-residential exposure frequency is 250 days per year and exposure duration is 25 years.

2) Elevated concentrations of 2-propanol (tracer) detected. Analytical data for other analytes are presumed to be invalid (--).

Bold font denotes concentrations detected above laboratory reporting limits.

Green background Denotes concentrations above non-residential SGSLs

ppbv = parts per billion by volume

NC = No Criteria

Table 8
 Summary of Chlorinated Volatile Organic Compounds in Off-Site Soil Gas
 Tecumseh Products Company
 Tecumseh, Michigan

Analyte	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	2-Propanol	
Residential SGSLs where $\alpha = 0.1^{(1)}$	38	2.4	525	93	158	6.2	9,360	23	11	NC	
Residential SGSLs where $\alpha = 0.01^{(2)}$	380	24	5,250	930	1,580	62	93,600	230	110	NC	
Site Specific Residential SGSLs where $\alpha = 0.003^{(3)}$	1,300	78	17,000	3,000	5,200	210	310,000	770	360	NC	
Site Specific Non-Residential SGSLs where $\alpha = 0.003^{(3)}$	4,300	260	24,000	4,300	7,300	690	440,000	2,600	1,200	NC	
Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%	
SG-01 (8-8.5')	4/5/2010	5.7	<2.3	4.4	17.0	<4.4	<2.3	279	396	<2.3	1.81E-03
	5/20/2010 ⁽⁴⁾	52.4	<4.4	21.6	184	<4.4	52.1	1,690	2,800	<4.4	3.35E-02
	10/21/2010	74.7	<16.8	<16.8	272	25.8	222	8,300	32,100	<16.8	NA
	12/9/2010	<709	<709	<709	<709	<709	<709	6,440	17,800	<709	NA
	4/13/2011	32.8	166	21.0	110	7.79	84.6	2,630	10,500	<6.7	NA
	6/7/2011	<180	<90	<180	<180	<180	98.0	1,420	7,340	<90	NA
SG-01 (DUP-01)	4/5/2010	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	1.53E-03
	5/20/2010 ⁽⁴⁾	63.2	<4.4	31.0	245	22.6	256	2,120	3,770	<4.4	8.49E-05
SG-02 (5.5-6')	4/5/2010	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	19.6	<4.0	<4.0	2.74E-06
	10/21/2010	<12.5	<12.5	<12.5	<12.5	<12.5	532	328	1,610	<12.5	NA
	12/9/2010 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2011 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/27/2011	8.5	<3.5	<7.0	28.0	8.6	1,240	943	3,970	<3.5	NA
SG-03 (5-5.5')	4/5/2010	<2.6	<2.6	<2.6	<2.6	<5.1	<2.6	<2.6	<2.6	<2.6	5.31E-06
	10/21/2010	91.0	<15.7	<15.7	193	90.3	<15.7	<15.7	<15.7	<15.7	NA
	12/9/2010	47.7	<11.9	<11.9	98.0	48.5	<11.9	<11.9	<11.9	<11.9	NA
	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	<0.57	<0.56	<0.57	<0.58	NA
	6/27/2011	<0.36	<0.18	<0.37	<0.37	<0.37	6.8	4.8	22.3	<0.18	NA
SG-04 (5-5.5')	4/5/2010	<2.6	<1.3 ⁽⁶⁾	<2.6	<2.6	<4.9	<2.6	<2.6	<2.6	<2.5	5.21E-06
	9/23/2010	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	NA
	12/9/2010	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	NA
	3/31/2011	<1.6	<1.6	<1.6	<1.6	<1.6	2.0	<1.6	<1.6	<1.6	NA
	6/7/2011	<1.0	<0.53	<1.1	<1.1	<1.1	<0.52	<1.0	<0.53	<0.54	NA

Notes:

- 1) Soil gas screening levels (SGSLs) calculated using an attenuation factor of 0.1 as specified in a comment letter from USEPA dated August 24, 2010.
- 2) SGSLs calculated using an attenuation factor of 0.01, as recommended in the Draft USEPA 2002 OSWER Vapor Intrusion Guidance.
- 3) Site Specific SGSLs calculated used an attenuation factor (0.003). This attenuation factor was determined using the USEPA Johnson and Ettinger Model calculation spreadsheet, Version 3.1. The site specific model used the spreadsheet default parameters conservatively assuming a sand substrate, a depth to foundation of 200 cm (basement), and a sample depth of 200 cm.
- 4) Elevated concentrations of 2-propanol (tracer) detected; DUP-01 results from 5/20/10 reflect true soil gas concentrations. Tracer concentration from SG-01 and analytical data from DUP-01 suggests that sample was diluted with approximately 30-percent ambient air.
- 5) Water in sample point prevented sample collection.
- 6) Analyte was evaluated for detection to the method detection limit.
- 7) Elevated concentrations of 2-propanol (tracer) detected. Analytical data for other analytes are presumed to be invalid (-).

Bold font denotes concentrations detected above laboratory reporting limits.

Denotes concentrations above one or more soil gas screening level

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Table 8
Summary of Chlorinated Volatile Organic Compounds in Off-Site Soil Gas
Tecumseh Products Company
Tecumseh, Michigan

Analyte	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	2-Propanol
Residential SGSLs where $\alpha = 0.1^{(1)}$	38	2.4	525	93	158	6.2	9,360	23	11	NC
Residential SGSLs where $\alpha = 0.01^{(2)}$	380	24	5,250	930	1,580	62	93,600	230	110	NC
Site Specific Residential SGSLs where $\alpha = 0.003^{(3)}$	1,300	78	17,000	3,000	5,200	210	310,000	770	360	NC
Site Specific Non-Residential SGSLs where $\alpha = 0.003^{(3)}$	4,300	260	24,000	4,300	7,300	690	440,000	2,600	1,200	NC
Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%

SG-05 (7.5-8')	4/5/2010	<2.6	<2.6	<2.6	<2.6	<4.9	<2.6	28.7	26.6	<2.5	1.03E-05
	10/21/2010	<16.8	<16.8	<16.8	<16.8	<16.8	<16.8	708	1,320	<16.8	NA
	12/9/2010	<15.7	<15.7	<15.7	<15.7	<15.7	<15.7	357	538	<15.7	NA
	3/31/2011 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/27/2011	<0.34	<0.17	<0.35	<0.35	<0.35	<0.17	2.2	0.20	<0.17	NA
SG-05 (DUP-01)	10/21/2010	<16.8	<16.8	<16.8	<16.8	<16.8	<16.8	581	1,020	<16.8	NA
	12/9/2010	<211	<211	<211	<211	<211	<211	772	849	<211	NA
SG-06 (8-8.5')	4/5/2010	<2.6	<2.6	<2.6	<2.6	<4.9	<2.6	<2.6	7.2	<2.5	4.12E-03
	5/20/2010	<4.6	<4.6	<4.6	<4.6	<4.6	9.5	6.0	104	<4.6	1.57E-04
	9/21/2010	<29.2	<29.2	<29.2	<29.2	<29.2	62.2	<29.2	263	<29.2	NA
	12/9/2010	<3.9	<3.9	<3.9	6.1	<3.9	4.3	7.4	64.9	<3.9	NA
	3/31/2011	0.73	<0.17	<0.35	<0.35	1.3	<0.17	1.7	14.1	<0.17	NA
	6/7/2011	0.88	<0.18	<0.37	5.6	2.5	7.5	2.5	50.2	<0.18	NA
SG-07 (8-8.5')	4/5/2010	<75.2	<75.2	<75.2	<75.2	<75.2	<75.2	<75.2	<75.2	<75.2	7.47E-05
	5/20/2010	<5.0	<5.0	<5.0	<5.0	<5.0	13.8	6.8	145	<5.0	1.70E-05
	9/21/2010	<69.6	<69.6	<69.6	<69.6	<69.6	140	<69.6	403	<69.6	NA
	12/9/2010	<22.2	<22.2	<22.2	<22.2	<22.2	24.4	<22.2	139	<22.2	NA
	3/31/2011	<0.34	<0.17	<0.35	<0.35	<0.35	5.9	4.3	47.2	<0.17	NA
	6/7/2011	<0.36	<0.18	<0.37	<0.37	<0.37	23.6	4.4	171	<0.18	NA
SG-07 (DUP-01)	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	7.9	5.0	90.6	<0.58	NA
	6/7/2011	<0.36	<0.18	<0.37	<0.37	<0.37	28.4	9.5	97.2	<0.18	NA
SG-08 (6.5-7')	4/5/2010	<2.6	<1.3 ⁽⁶⁾	<2.6	<2.6	<5.1	<2.6	<2.6	<2.6	<2.6	6.49E-06
	9/23/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.5	3.5	<2.0	NA
	12/9/10 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2011	<0.34	<0.17	<0.35	<0.35	<0.35	0.29	3.4	<0.17	<0.17	NA
	6/27/2011	<0.34	<0.17	<0.35	<0.35	<0.35	<0.17	0.97	<0.18	<0.17	NA

Notes:

- 1) Soil gas screening levels (SGSLs) calculated using an attenuation factor of 0.1 as specified in a comment letter from USEPA dated August 24, 2010.
- 2) SGSLs calculated using an attenuation factor of 0.01, as recommended in the Draft USEPA 2002 OSWER Vapor Intrusion Guidance.
- 3) Site Specific SGSLs calculated used an attenuation factor (0.003). This attenuation factor was determined using the USEPA Johnson and Ettinger Model calculation spreadsheet, Version 3.1. The site specific model used the spreadsheet default parameters conservatively assuming a sand substrate, a depth to foundation of 200 cm (basement), and a sample depth of 200 cm.
- 4) Elevated concentrations of 2-propanol (tracer) detected; DUP-01 results from 5/20/10 reflect true soil gas concentrations. Tracer concentration from SG-01 and analytical data from DUP-01 suggests that sample was diluted with approximately 30-percent ambient air.
- 5) Water in sample point prevented sample collection.
- 6) Analyte was evaluated for detection to the method detection limit.
- 7) Elevated concentrations of 2-propanol (tracer) detected. Analytical data for other analytes are presumed to be invalid (-).

Bold font denotes concentrations detected above laboratory reporting limits.

Green background Denotes concentrations above one or more soil gas screening level

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NC - No Criteria

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NA - Not Applicable

Table 8
 Summary of Chlorinated Volatile Organic Compounds in Off-Site Soil Gas
 Tecumseh Products Company
 Tecumseh, Michigan

Analyte	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	2-Propanol
Residential SGSLS where $\alpha = 0.1^{(1)}$	38	2.4	525	93	158	6.2	9,360	23	11	NC
Residential SGSLS where $\alpha = 0.01^{(2)}$	380	24	5,250	930	1,580	62	93,600	230	110	NC
Site Specific Residential SGSLS where $\alpha = 0.003^{(3)}$	1,300	78	17,000	3,000	5,200	210	310,000	770	360	NC
Site Specific Non-Residential SGSLS where $\alpha = 0.003^{(3)}$	4,300	260	24,000	4,300	7,300	690	440,000	2,600	1,200	NC
Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%
SG-09 (5.5-6')	4/5/2010 ⁽⁷⁾	--	--	--	--	--	--	--	--	1.58E-01
	5/20/2010	10.6	<4.4	<4.4	<4.4	<4.4	<4.4	123	176	2.48E-06
	9/23/2010	<23.4	<23.4	<23.4	<23.4	<23.4	<23.4	142	436	NA
	12/9/2010	<13.2	<13.2	<13.2	<13.2	<13.2	<13.2	61.8	51.7	NA
	3/31/2011	4.3	<0.17	<0.35	1.3	<0.35	<0.17	52.5	13.9	NA
	6/27/2011	5.4	<0.17	<0.35	1.4	<0.35	<0.17	52.8	45.8	NA
SG-10 (5-5.5')	4/5/2010	<40.3 ⁽⁶⁾	<40.3 ⁽⁶⁾	<80.6	<80.6	<80.6	<40.3 ⁽⁶⁾	<80.6	<40.3 ⁽⁶⁾	<8.06E-06
	9/21/2010	<4.4	<2.2 ⁽⁶⁾	<4.4	<4.4	<4.4	<4.4	<4.4	11.5	NA
	12/9/2010	<8.7	<4.4 ⁽⁶⁾	<8.7	<8.7	<8.7	<4.4 ⁽⁶⁾	<8.7	<8.7	NA
	3/31/2011	<0.61	<0.61	<0.62	<0.62	<0.62	<0.61	<0.59	<0.60	NA
	6/27/2011 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS
SG-11 (7.5-6')	4/5/2010	<2.8	<1.4 ⁽⁶⁾	<2.8	<2.8	<5.4	<2.8	<2.8	<2.8	1.28E-05
	9/23/2010	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	NA
	12/9/2010	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	NA
	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	<0.57	<0.56	<0.57	NA
	6/7/2011	<0.39	<0.19	<0.40	<0.40	<0.40	0.89	0.54	1.2	NA
SG-12 (5-5.5')	4/5/2010 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/20/2020 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/21/2010 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/9/2010	<2.5	<1.3 ⁽⁶⁾	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	NA
	3/31/2011 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS
6/27/2011 ⁽⁵⁾	NS	NS	NS	NS	NS	NS	NS	NS	NS	

Notes:

- 1) Soil gas screening levels (SGSLs) calculated using an attenuation factor of 0.1 as specified in a comment letter from USEPA dated August 24, 2010.
- 2) SGSLs calculated using an attenuation factor of 0.01, as recommended in the Draft USEPA 2002 OSWER Vapor Intrusion Guidance.
- 3) Site Specific SGSLs calculated used an attenuation factor (0.003). This attenuation factor was determined using the USEPA Johnson and Ettinger Model calculation spreadsheet, Version 3.1. The site specific model used the spreadsheet default parameters conservatively assuming a sand substrate, a depth to foundation of 200 cm (basement), and a sample depth of 200 cm.
- 4) Elevated concentrations of 2-propanol (tracer) detected; DUP-01 results from 5/20/10 reflect true soil gas concentrations. Tracer concentration from SG-01 and analytical data from DUP-01 suggests that sample was diluted with approximately 30-percent ambient air.
- 5) Water in sample point prevented sample collection.
- 6) Analyte was evaluated for detection to the method detection limit.
- 7) Elevated concentrations of 2-propanol (tracer) detected. Analytical data for other analytes are presumed to be invalid (-).

Bold font denotes concentrations detected above laboratory reporting limits.

Denotes concentrations above one or more soil gas screening level

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Table 8
 Summary of Chlorinated Volatile Organic Compounds in Off-Site Soil Gas
 Tecumseh Products Company
 Tecumseh, Michigan

Analyte	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	2-Propanol
Residential SGSLs where $\alpha = 0.1^{(1)}$	38	2.4	525	93	158	6.2	9,360	23	11	NC
Residential SGSLs where $\alpha = 0.01^{(2)}$	380	24	5,250	930	1,580	62	93,600	230	110	NC
Site Specific Residential SGSLs where $\alpha = 0.003^{(3)}$	1,300	78	17,000	3,000	5,200	210	310,000	770	360	NC
Site Specific Non-Residential SGSLs where $\alpha = 0.003^{(3)}$	4,300	260	24,000	4,300	7,300	690	440,000	2,600	1,200	NC
Units	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	%

SG-13 (5.5-6')	4/5/2010	<2.5	<1.3 ⁽⁶⁾	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	1.75E-04
	5/20/2010	<4.5	<2.2 ⁽⁶⁾	<4.5	<4.5	<4.5	<4.5	<4.5	6.1	<4.5	9.13E-04
	9/23/2010	<1.5	<1.5	<1.5	2.5	5.6	<1.5	<1.5	<1.5	<1.5	NA
	12/9/2010	<1.6	<1.6	<1.6	<1.6	2.9	<1.6	<1.6	<1.6	<1.6	NA
	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	<0.57	<0.56	<0.57	<0.58	NA
	6/7/2011	1.5	<0.19	<0.40	4.8	10.8	0.77	0.81	1.6	<0.19	NA
SG-14 (6.5-7') ⁽⁵⁾	4/5/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/20/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/21/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/27/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SG-15 (11-11.5') ⁽⁵⁾	9/23/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/15/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/27/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SG-16 (7.5-8')	9/23/2010	<2.5	<2.5	<2.5	<2.5	<2.5	2.6	<2.5	<2.5	<2.5	NA
	12/9/2010	<15.7	<7.8 ⁽⁶⁾	<15.7	<15.7	<15.7	<7.8 ⁽⁶⁾	<15.7	<15.7	<7.8 ⁽⁶⁾	NA
	3/31/2011	<0.61	<0.61	<0.60	<0.60	<0.60	<0.61	<0.59	<0.60	<0.62	NA
	6/7/2011	<1.1	<0.53	<1.1	<1.1	<1.1	<0.54	<1.1	0.62	<0.54	NA

Notes:

- 1) Soil gas screening levels (SGSLs) calculated using an attenuation factor of 0.1 as specified in a comment letter from USEPA dated August 24, 2010.
- 2) SGSLs calculated using an attenuation factor of 0.01, as recommended in the Draft USEPA 2002 OSWER Vapor Intrusion Guidance.
- 3) Site Specific SGSLs calculated used an attenuation factor (0.003). This attenuation factor was determined using the USEPA Johnson and Ettinger Model calculation spreadsheet, Version 3.1. The site specific model used the spreadsheet default parameters conservatively assuming a sand substrate, a depth to foundation of 200 cm (basement), and a sample depth of 200 cm.
- 4) Elevated concentrations of 2-propanol (tracer) detected; DUP-01 results from 5/20/10 reflect true soil gas concentrations. Tracer concentration from SG-01 and analytical data from DUP-01 suggests that sample was diluted with approximately 30-percent ambient air.
- 5) Water in sample point prevented sample collection.
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Table 9
 Summary of Chlorinated Volatile Organic Compounds at Storm Water and Surface Water Sample Locations
 Tecumseh Products Company
 Tecumseh, Michigan

Analyte	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene ⁽¹⁾	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride	
HNV Non-Drink	62,000	420,000	33,000	36,000	19,000	1,800	42,000	550	4,400	
HCV- Non-Drink	NC	360	NC	NC	NC	60	NC	370	13	
Residential DW Criteria	880	5.0	7.0	70	100	5.0	200	5.0	2.0	
Non-Residential DW Criteria	2,500	5.0	7.0	70	100	5.0	200	5.0	2.0	
Groundwater Contact Criteria	2,400,000	19,000	11,000	200,000	220,000	12,000	1,300,000	22,000	1,000	
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	
STW-1	4/13/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.85
	12/9/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/2/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
STW-2	12/10/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/13/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	23
	12/9/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
9/2/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
12/10/2010 ⁽²⁾	--	--	--	--	--	--	--	--	--	
STW-3	4/13/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
STW-4	4/13/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
STW-5	4/13/2009	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	0.55	<0.5	<0.5
STW-6	4/13/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
STW-7	4/13/2009	<0.5	<0.5	<0.5	0.64	<0.5	0.63	<0.5	2.7	<0.5
STW-8	4/13/2009	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Surface Water	5/26/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
WL-01	4/6/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/18/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/10/2010 ⁽³⁾	--	--	--	--	--	--	--	--	--
	2/25/2011 ⁽³⁾	--	--	--	--	--	--	--	--	--
	5/11/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

Residential and Industrial Drinking Water (DW) Criteria and Groundwater Contact Criteria (GCC) from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Human Non-Cancer Values (HNV) and Human Cancer Values (HCV) from MDEQ Surface Water Assessment Rule 57 Water Quality Values.

ug/L = micrograms per liter

NC = No criteria

-- = No data

Bold font denotes concentrations detected above laboratory reporting limits

- 1) Compound may exhibit characteristic ignitability as defined in 40 C.F.R. § 261.21
- 2) Insufficient flow to collect sample.
- 3) Frozen, no sample collected.

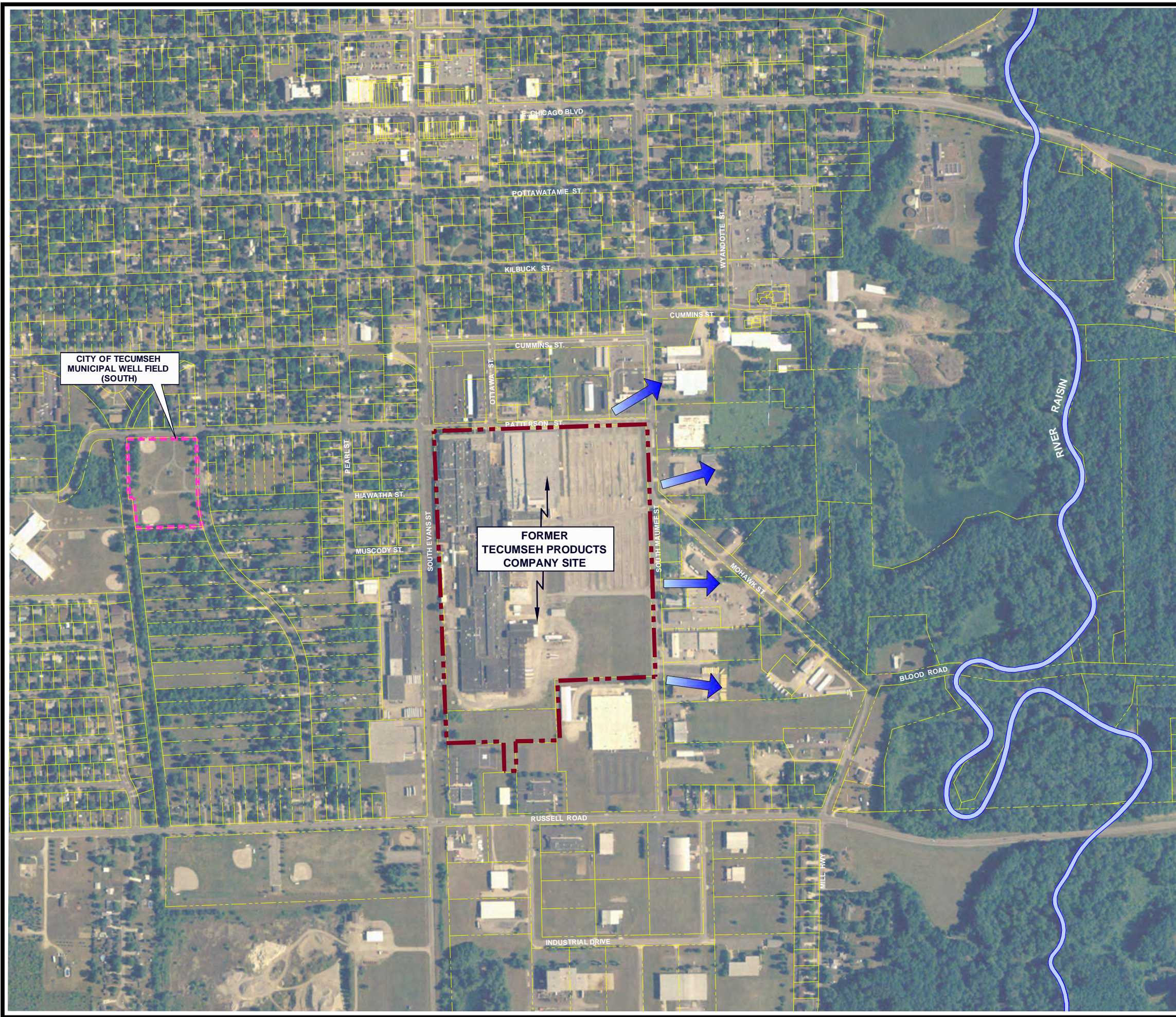
Figures

PLOT DATA





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Drawing Plot Scale: 0.386863

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Plot Date: September 28, 2011
Plot Time: 12:50 PM

Attached Xref's:
Attached Images:
Layout: FIG01 Site Location

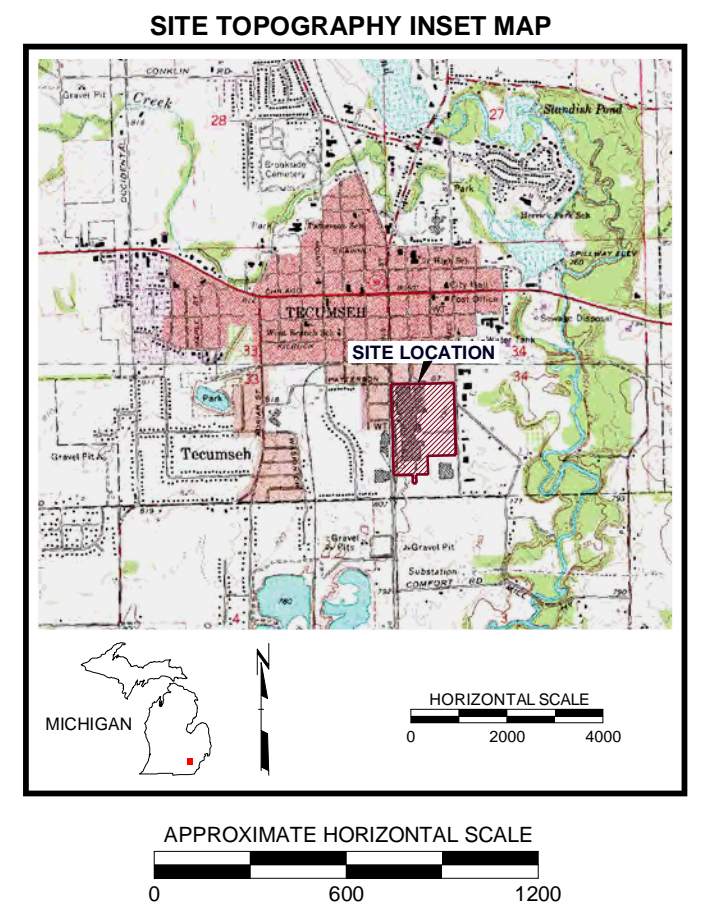


LEGEND

-  CITY OF TECUMSEH PROPERTY BOUNDARIES
-  FORMER TECUMSEH PRODUCTS SITE BOUNDARY
-  PARCEL BOUNDARIES
-  GROUNDWATER FLOW DIRECTION

NOTE

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009, AERIAL PHOTOGRAPH PROVIDED FROM REMOTE SENSING & GIS RESEARCH AND OUTREACH SERVICES (RS&GIS), PUBLICATION_DATE: 06-29-2007, File:TECUMSEHSOUTH_NE.ECW.



PROJECT:		FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN	
TITLE:		SITE LOCATION PLAN AND VICINITY	
DRAWN BY:	SJL/DGS	SCALE:	AS INDICATED
CHECKED BY:	SEM	PROJ. NO.:	004311.0000.0000
APPROVED BY:	GC	FILE NO.:	004311.0000.01.dwg
DATE:	SEPTEMBER 2011	DATE PRINTED:	FIGURE 1

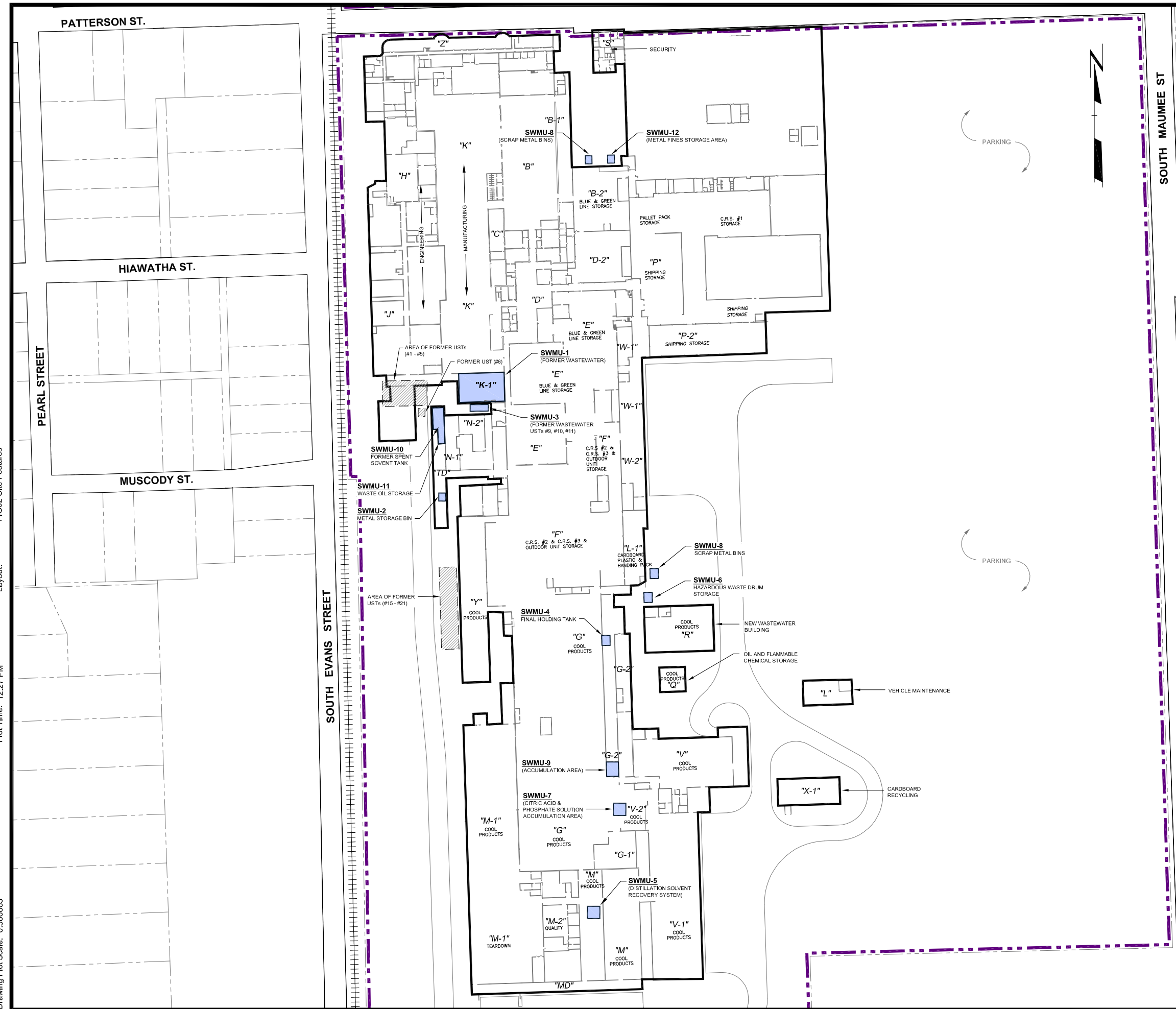


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Fax: 734.971.9022

PLOT DATA
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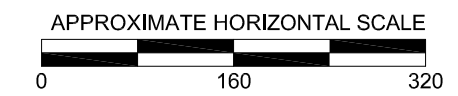
Attached Xrefs: bm033109
 Attached Images: FIG02 Site Features
 Layout:



LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- TECUMSEH PRODUCTS BUILDING OUTLINE
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- APPROXIMATE LOCATION OF FORMER SWMUs

- NOTES**
1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
 2. SEE APPENDIX C OF THE CURRENT CONDITION REPORT FOR UST CONTENTS AND OTHER RELEVANT DATA.



PROJECT: FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN			
TITLE: SITE FEATURES			
DRAWN BY: SJL/DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000	
CHECKED BY: SEM	DATE PRINTED:	FILE NO. 004311.0000.02.dwg	
APPROVED BY: GC		FIGURE 2	
DATE: SEPTEMBER 2011			

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bm033109

Attached Xrefs:

2.74 Mb

J:_TRC\0431121\04311.0000.03.dwg

PLOT DATA

September 29, 2011

September 29, 2011

Operator Name: STEHLE, DIANA H

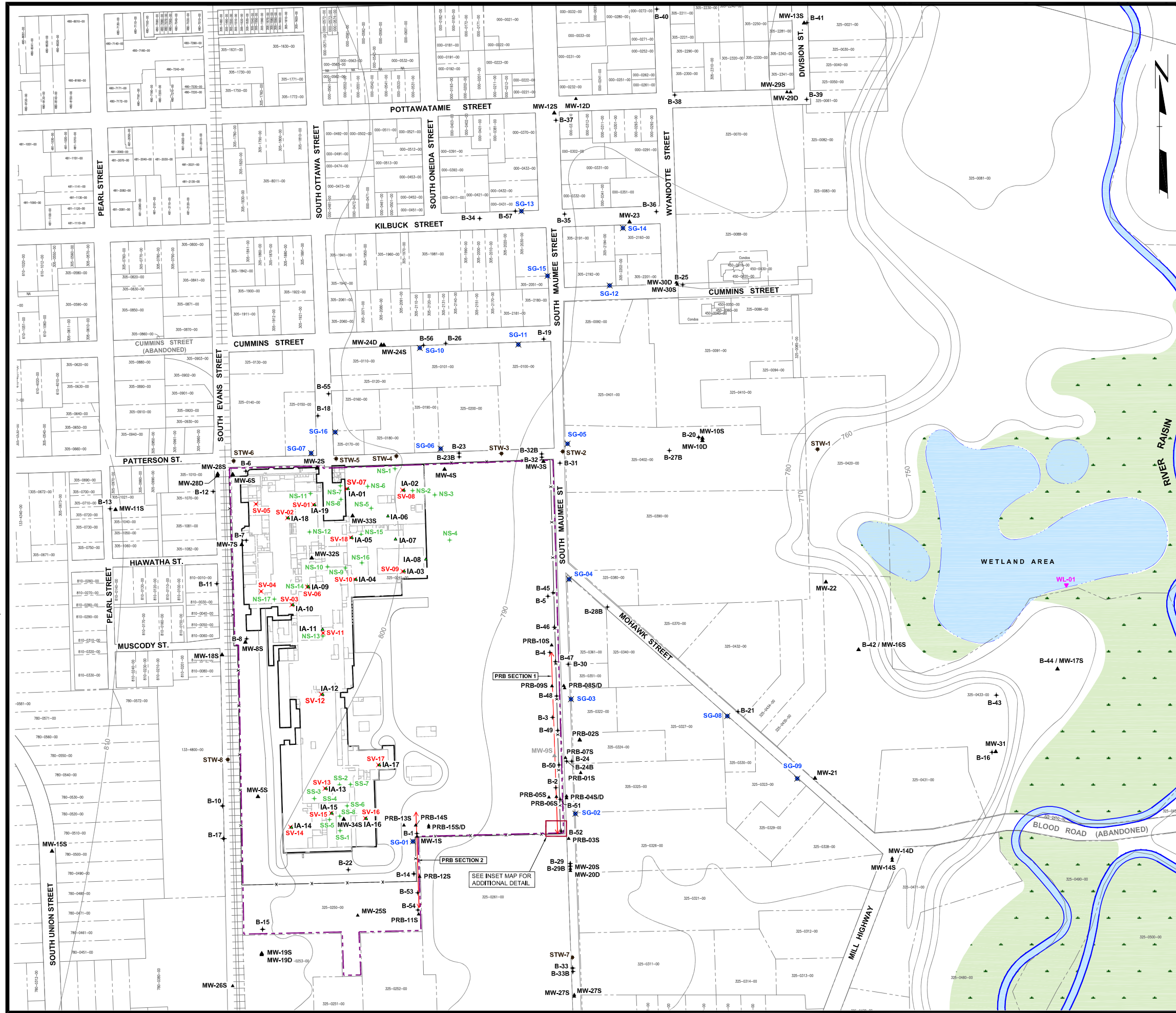
Operator Name: STEHLE, DIANA H

FIG03 Surf Topo & Sample Locs

Layout:

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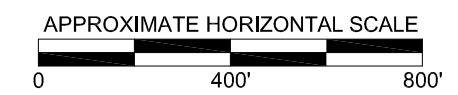
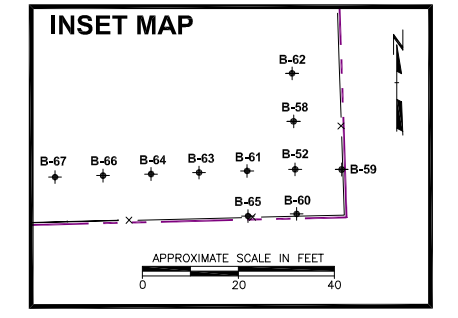
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LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MONITORING WELL LOCATION AND NUMBER
- DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SUB-SLAB SOIL GAS SAMPLING LOCATION
- INDOOR AIR SAMPLING LOCATION
- SOIL GAS SAMPLE LOCATION AND NUMBER
- STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WETLAND SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

- ### NOTES
1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
 2. GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S TOPOGRAPHIC QUADRANGLE MAP AND GROUND SURVEY DATA.

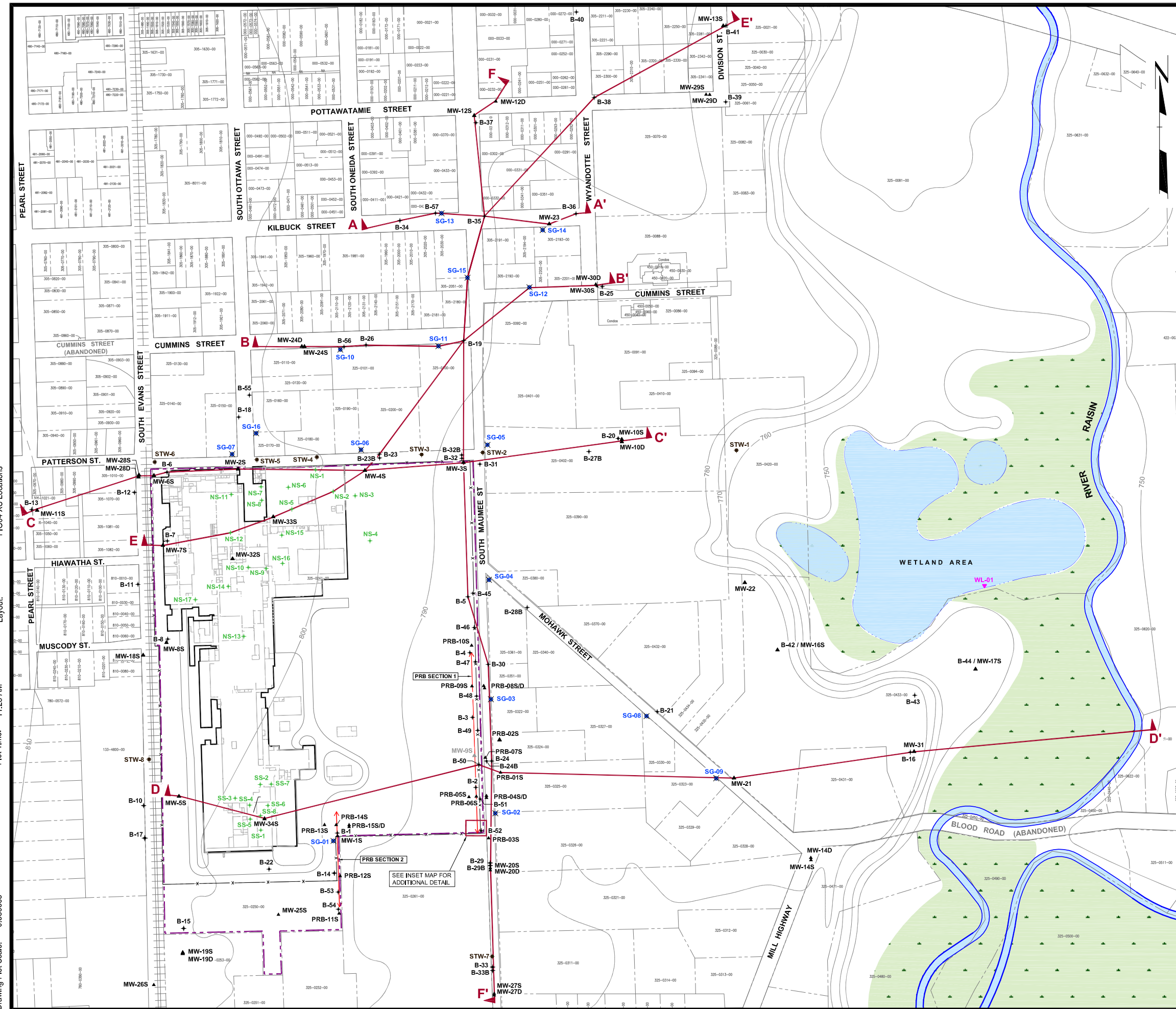


PROJECT:			FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN	
SHEET TITLE:			SURFACE TOPOGRAPHY AND SAMPLE LOCATIONS	
DRAWN BY:	SJL/DGS	SCALE:	AS INDICATED	PROJ. NO. 004311.0000.0000
CHECKED BY:	SEM	DATE PRINTED:		FILE NO. 004311.0000.03.dwg
APPROVED BY:	GC	FIGURE 3		
DATE:	SEPTEMBER 2011			



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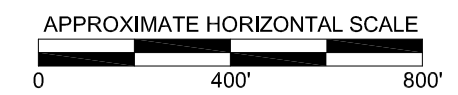
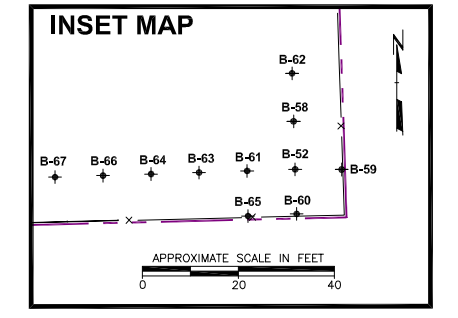
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 Plot Date: September 29, 2011
 Plot Time: 11:28 AM
 Attached Xrefs: bm033109
 Attached Images: FIG04 XS Locations
 Layout:



LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MONITORING WELL LOCATION AND NUMBER
- DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SOIL GAS SAMPLE LOCATION AND NUMBER
- STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WETLAND SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- CROSS-SECTION LOCATION

- ### NOTES
1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
 2. GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP AND GROUND SURVEY DATA.



PROJECT:		FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN	
SHEET TITLE:		CROSS-SECTION LOCATION MAP	
DRAWN BY:	SJL/DGS	SCALE:	AS INDICATED
CHECKED BY:	SEM	PROJ. NO.:	004311.0000.0000
APPROVED BY:	GC	FILE NO.:	004311.0000.04.dwg
DATE:	SEPTEMBER 2011	FIGURE 4	



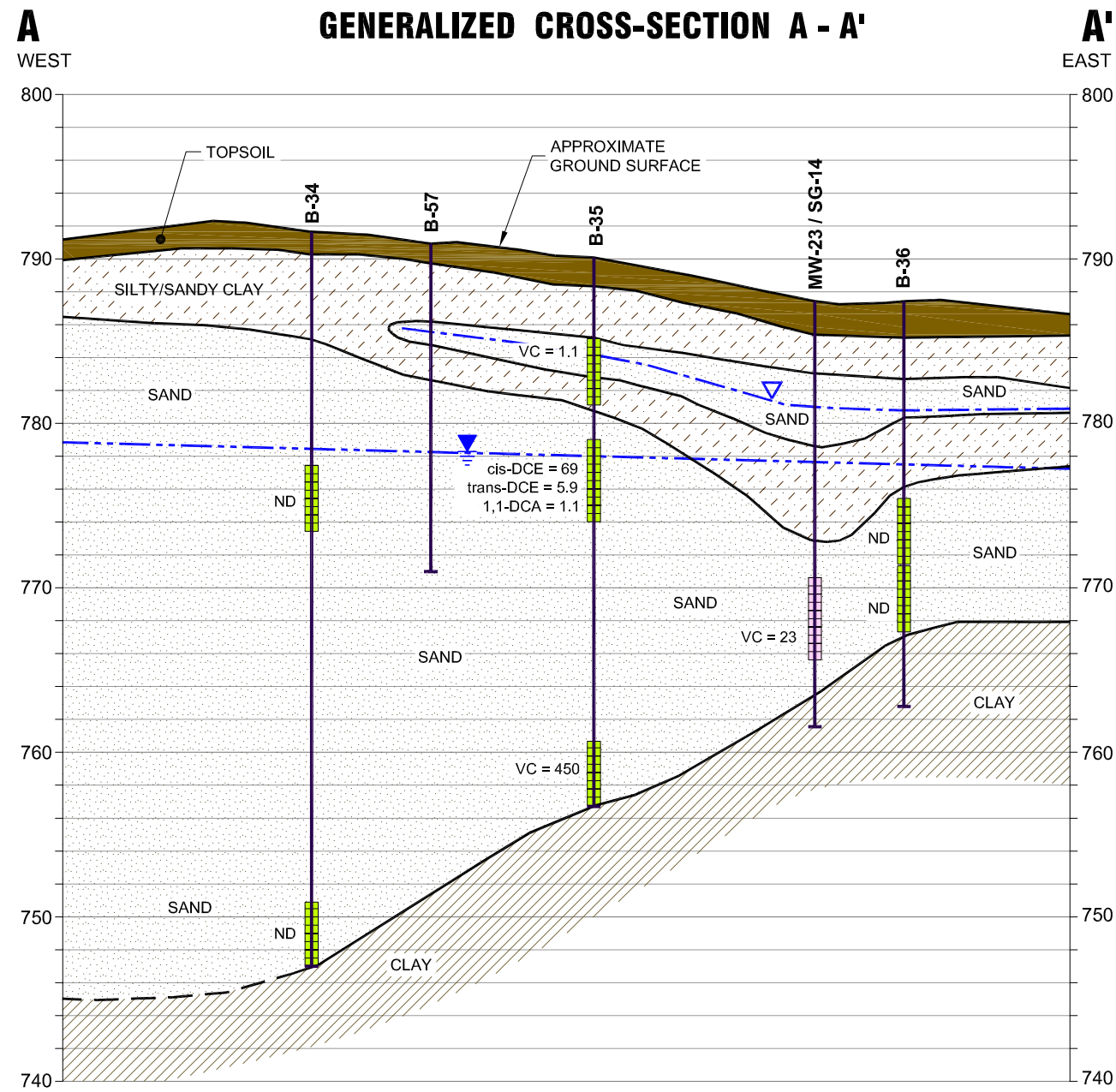
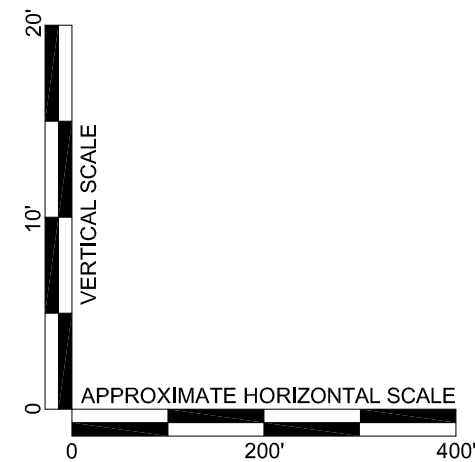
3754 Ranchero Drive
 Ann Arbor, MI 48108-2237
 Phone: 734.971.7080
 Fax: 734.971.9022

PLOT DATA

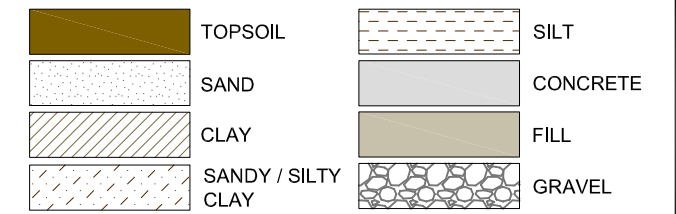
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Plot Time: 11:02 AM

Attached Xrefs:
Attached Images:
Layout: FIG 05 XS A-A'



LEGEND



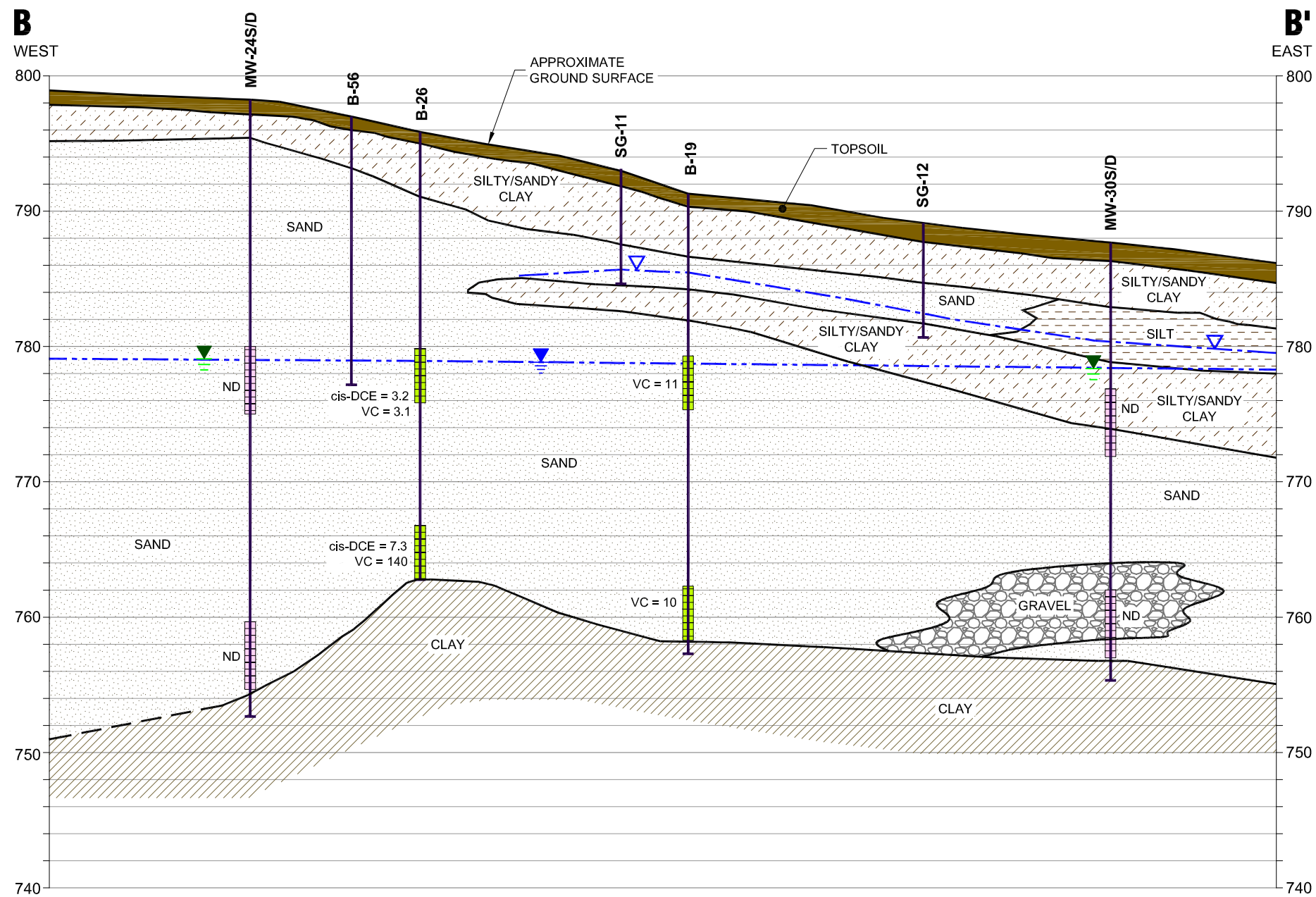
- STRATIGRAPHIC BOUNDARY BASED ON NEAREST SOIL BORING OR MONITORING WELL (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER ELEVATION
- PERCHED GROUNDWATER ELEVATION
- PIEZOMETRIC WATER LEVEL INDICATOR
- TEMPORARY WELL SCREEN
- WELL SCREEN
- PCE = TETRACHLOROETHENE
 TCE = TRICHLOROETHENE
 TCA = 1,1,1-TRICHLOROETHANE
 1,1-DCE = 1,1-DICHLOROETHENE
 1,1-DCA = 1,1-DICHLOROETHANE
 cis-DCE = 1,2-cis-DICHLOROETHENE
 trans-DCE = 1,2-trans-DICHLOROETHENE
 VC = VINYL CHLORIDE
 ND = NOT DETECTED

NOTES

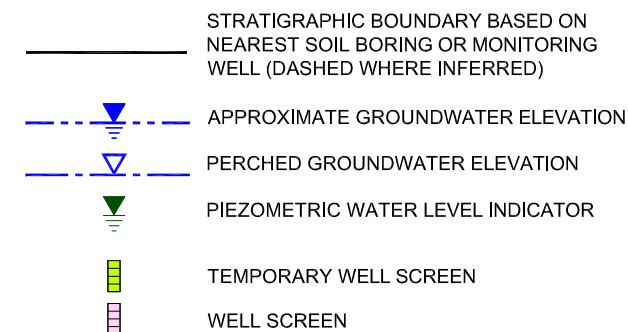
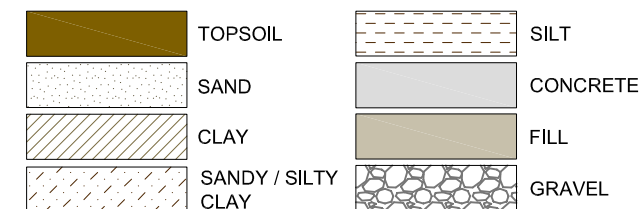
- GROUND SURFACE AND STRATIGRAPHIC CONTACTS ARE APPROXIMATE AND EXTRAPOLATED FROM NEAREST SOIL BORING DATA.
- SEE FIGURE 4 FOR LOCATION / ORIENTATION OF THIS GEOLOGIC CROSS SECTION.
- GROUNDWATER ANALYTICAL DATA REFLECTS MOST RECENT SAMPLE EVENT AS OF SEPTEMBER 2011.
- DETECTED GROUNDWATER CONCENTRATIONS FOR CONSTITUENTS OF HIGHEST CONCERN ARE PROVIDED IN MICROGRAMS PER LITER.

PROJECT: FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN			
TITLE: GEOLOGIC CROSS-SECTION A-A'			
DRAWN BY: DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000	FILE NO. 004311.0000.05-10.dwg
CHECKED BY: SEM	DATE PRINTED:	FIGURE 5	
APPROVED BY: GC	DATE: SEPTEMBER 2011		
		3754 Ranchero Drive Ann Arbor, MI 48108-2237 Phone: 734.971.7080 Fax: 734.971.9022	

GENERALIZED CROSS-SECTION B - B'



LEGEND



PCE = TETRACHLOROETHENE
 TCE = TRICHLOROETHENE
 TCA = 1,1,1-TRICHLOROETHANE
 1,1-DCE = 1,1-DICHLOROETHENE
 1,1-DCA = 1,1-DICHLOROETHANE
 cis-DCE = 1,2-cis-DICHLOROETHENE
 trans-DCE = 1,2-trans-DICHLOROETHENE
 VC = VINYL CHLORIDE
 ND = NOT DETECTED

NOTES

- GROUND SURFACE AND STRATIGRAPHIC CONTACTS ARE APPROXIMATE AND EXTRAPOLATED FROM NEAREST SOIL BORING DATA.
- SEE FIGURE 4 FOR LOCATION / ORIENTATION OF THIS GEOLOGIC CROSS SECTION.
- GROUNDWATER ANALYTICAL DATA REFLECTS MOST RECENT SAMPLE EVENT AS OF SEPTEMBER 2011.
- DETECTED GROUNDWATER CONCENTRATIONS FOR CONSTITUENTS OF HIGHEST CONCERN ARE PROVIDED IN MICROGRAMS PER LITER.

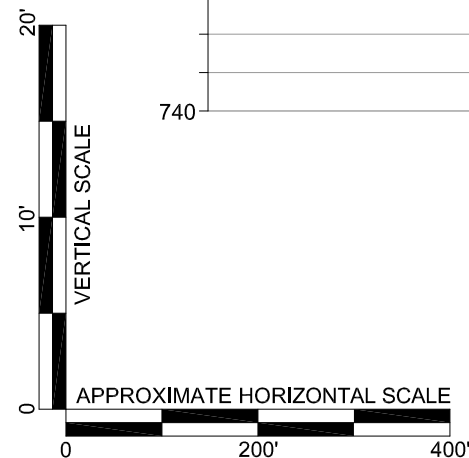


FIG06 XS B-B

Attached Xrefs:
Attached Images:
Layout:

Dwg Size: 0.77 Mb
Plot Date: September 29, 2011
Plot Time: 11:10 AM

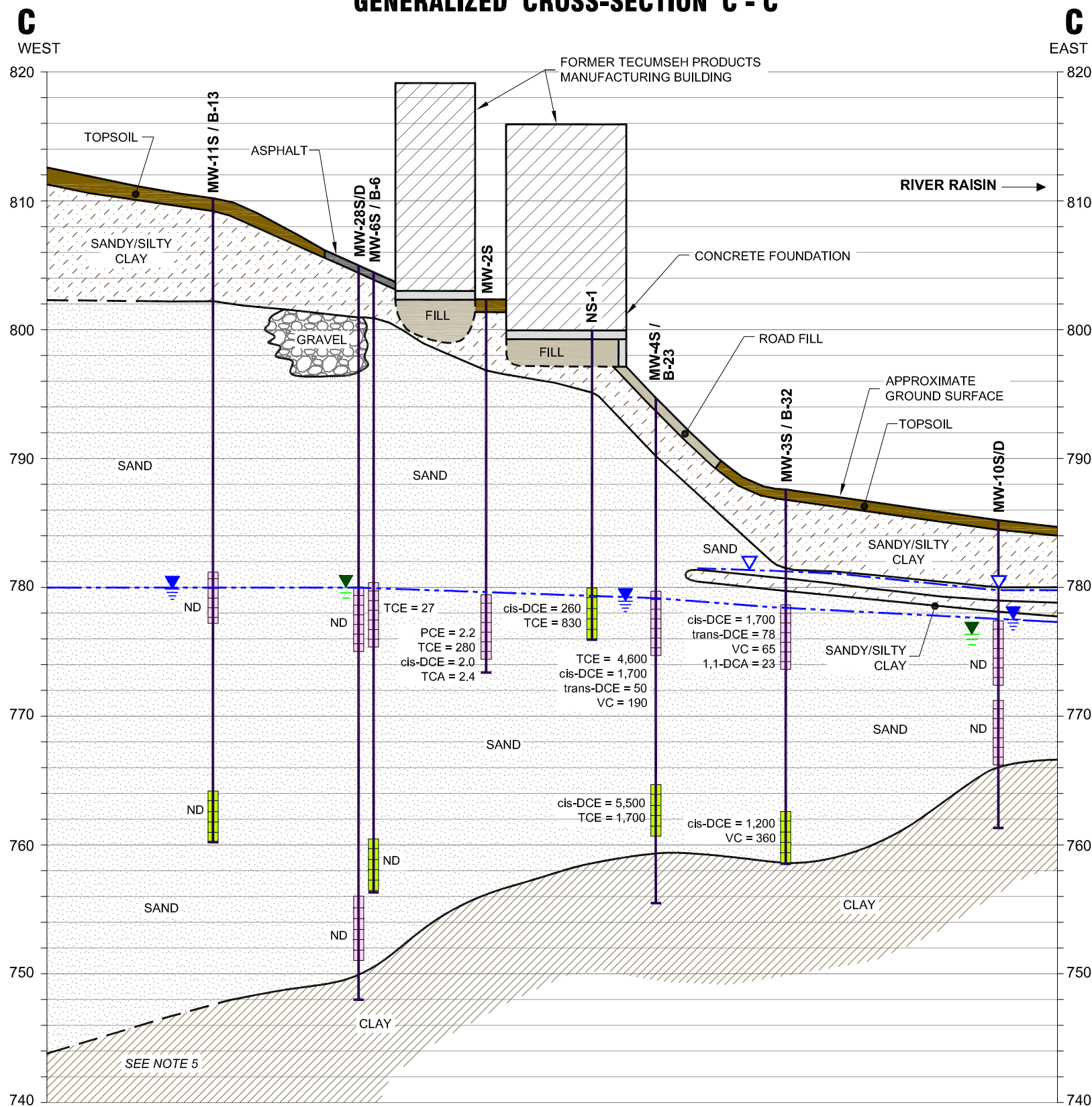
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 Operator Name: STEHLE, DIANAH
 Drawing Plot Scale: 0.386863

PROJECT: FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN			
TITLE: GEOLOGIC CROSS-SECTION B-B'			
DRAWN BY: DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000	FILE NO. 004311.0000.05-10.dwg
CHECKED BY: SEM	DATE PRINTED:	FIGURE 6	
APPROVED BY: GC	DATE: SEPTEMBER 2011		

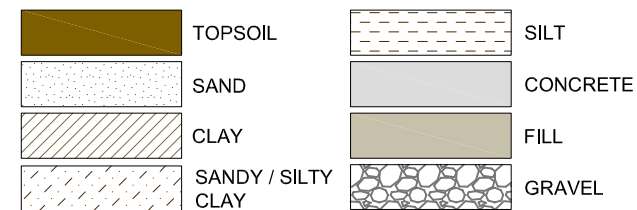


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 Fax: 734.971.9022

GENERALIZED CROSS-SECTION C - C'



LEGEND



— STRATIGRAPHIC BOUNDARY BASED ON NEAREST SOIL BORING OR MONITORING WELL (DASHED WHERE INFERRED)

— APPROXIMATE GROUNDWATER ELEVATION

— PERCHED GROUNDWATER ELEVATION

— PIEZOMETRIC WATER LEVEL INDICATOR

— TEMPORARY WELL SCREEN

— WELL SCREEN

PCE = TETRACHLOROETHENE
 TCE = TRICHLOROETHENE
 TCA = 1,1,1-TRICHLOROETHANE
 1,1-DCE = 1,1-DICHLOROETHENE
 1,1-DCA = 1,1-DICHLOROETHANE
 cis-DCE = 1,2-cis-DICHLOROETHENE
 trans-DCE = 1,2-trans-DICHLOROETHENE
 VC = VINYL CHLORIDE
 ND = NOT DETECTED

NOTES

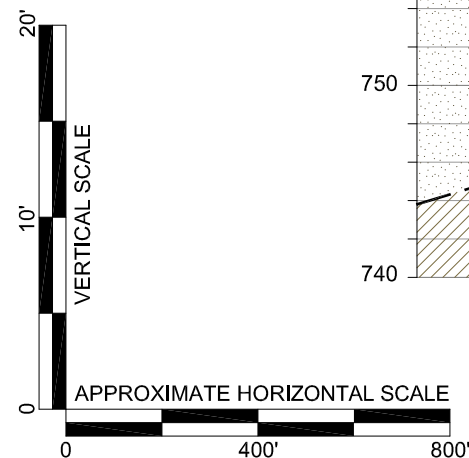
- GROUND SURFACE AND STRATIGRAPHIC CONTACTS ARE APPROXIMATE AND EXTRAPOLATED FROM NEAREST SOIL BORING DATA.
- SEE FIGURE 4 FOR LOCATION / ORIENTATION OF THIS GEOLOGIC CROSS SECTION.
- GROUNDWATER ANALYTICAL DATA REFLECTS MOST RECENT SAMPLE EVENT AS OF SEPTEMBER 2011.
- DETECTED GROUNDWATER CONCENTRATIONS FOR CONSTITUENTS OF HIGHEST CONCERN ARE PROVIDED IN MICROGRAMS PER LITER.
- THE ELEVATION OF THE TOP OF CLAY NEAR MW-11S IS ESTIMATED BASED ON WELL LOGS FROM THE CITY OF TECUMSEH WELL FIELD, WHICH IS LOCATED APPROXIMATELY 1,000 FEET WEST OF MW-11S. TOP OF CLAY AT THE CITY WELL FIELD IS AT APPROXIMATELY 740 FEET MSL.

PROJECT: FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN			
TITLE: GEOLOGIC CROSS-SECTION C-C'			
DRAWN BY: SJL/DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000	
CHECKED BY: SEM	DATE PRINTED:	FILE NO. 004311.0000.05-10.dwg	
APPROVED BY: GC		FIGURE 7	
DATE: SEPTEMBER 2011			



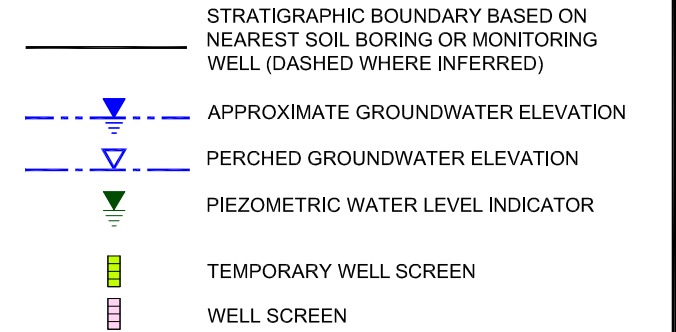
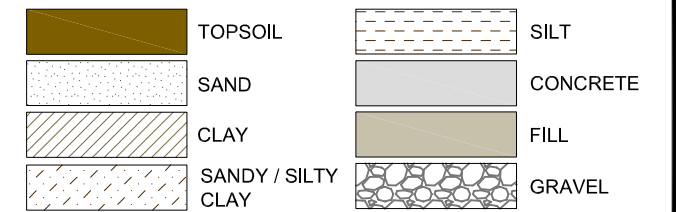
3754 Ranchero Drive
 Ann Arbor, MI 48108-2237
 Phone: 734.971.7080
 Fax: 734.971.9022

PLOT DATA
 Drawing Name: J:_TRC\004311\21004311.0000.05-10.dwg
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 Drawing Plot Scale: 0.386663
 Dwg Size: 0.77 Mb
 Plot Date: September 29, 2011
 Plot Time: 11:11 AM
 Attached Xref's:
 Attached Images:
 Layout: FIG07 XS C-C



GENERALIZED CROSS-SECTION D - D'

LEGEND



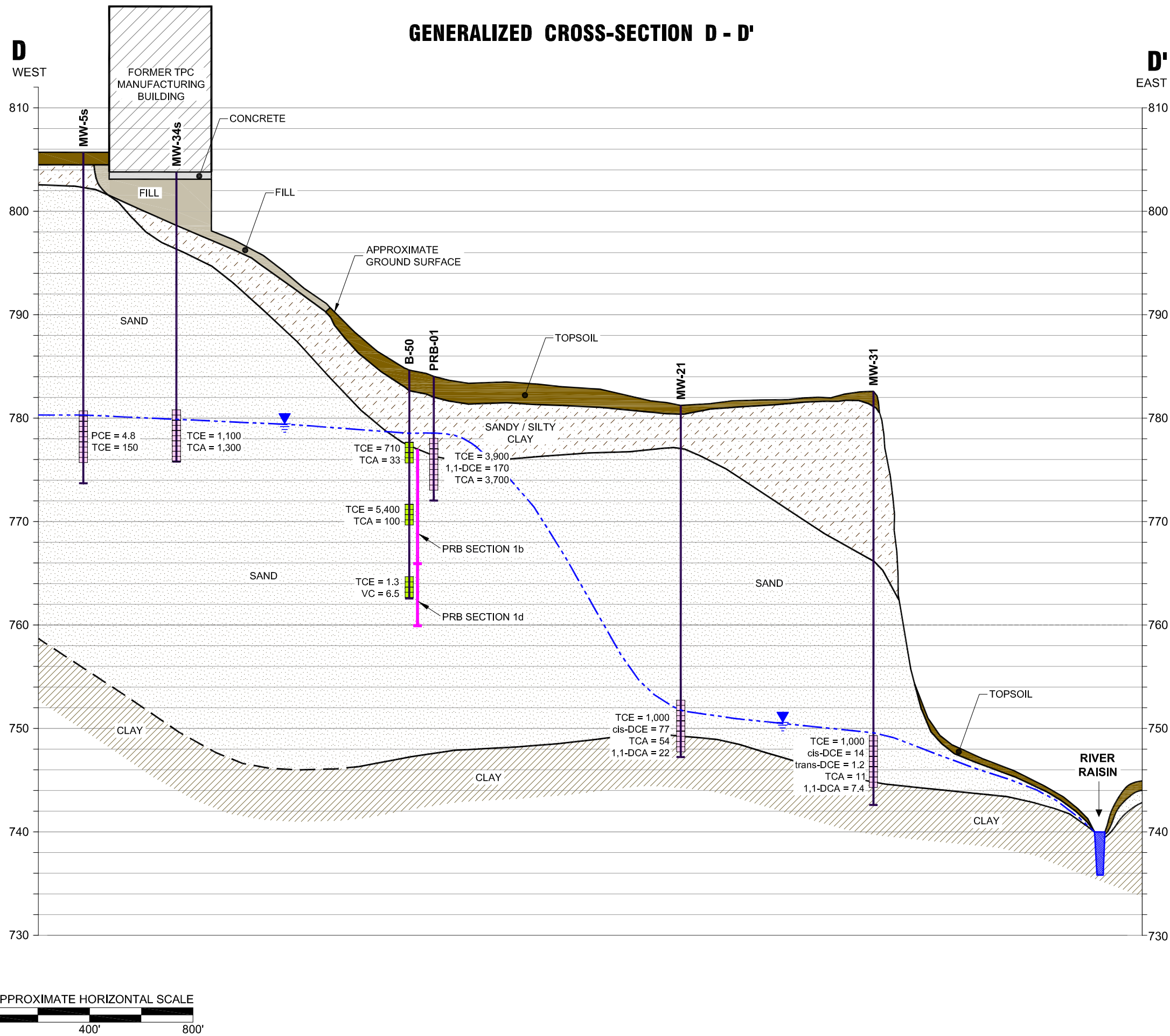
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 TCE = TRICHLOROETHENE
 TCA = 1,1,1-TRICHLOROETHANE
 1,1-DCE = 1,1-DICHLOROETHENE
 1,1-DCA = 1,1-DICHLOROETHANE
 cis-DCE = 1,2-cis-DICHLOROETHENE
 trans-DCE = 1,2-trans-DICHLOROETHENE
 VC = VINYL CHLORIDE
 ND = NOT DETECTED

NOTES

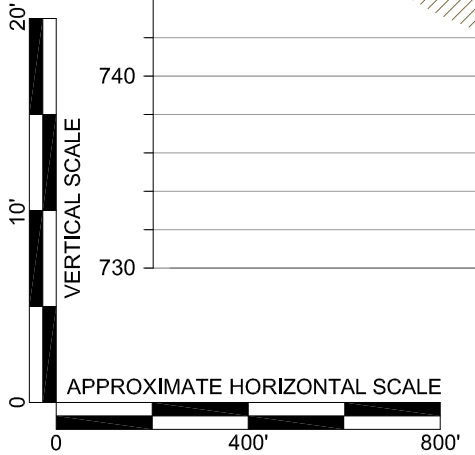
- GROUND SURFACE AND STRATIGRAPHIC CONTACTS ARE APPROXIMATE AND EXTRAPOLATED FROM NEAREST SOIL BORING DATA.
- SEE FIGURE 4 FOR LOCATION / ORIENTATION OF THIS GEOLOGIC CROSS SECTION.
- GROUNDWATER ANALYTICAL DATA REFLECTS MOST RECENT SAMPLE EVENT AS OF SEPTEMBER 2011.
- DETECTED GROUNDWATER CONCENTRATIONS FOR CONSTITUENTS OF HIGHEST CONCERN ARE PROVIDED IN MICROGRAMS PER LITER.

PROJECT: FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN			
TITLE: GEOLOGIC CROSS-SECTION D-D'			
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CHECKED BY: SEM	DATE PRINTED:	FILE NO. 004311.0000.05-10.dwg	
APPROVED BY: GC		FIGURE 8	
DATE: SEPTEMBER 2011			

3754 Ranchero Drive
Ann Arbor, MI 48108-2237
Phone: 734.971.7080
Fax: 734.971.9022

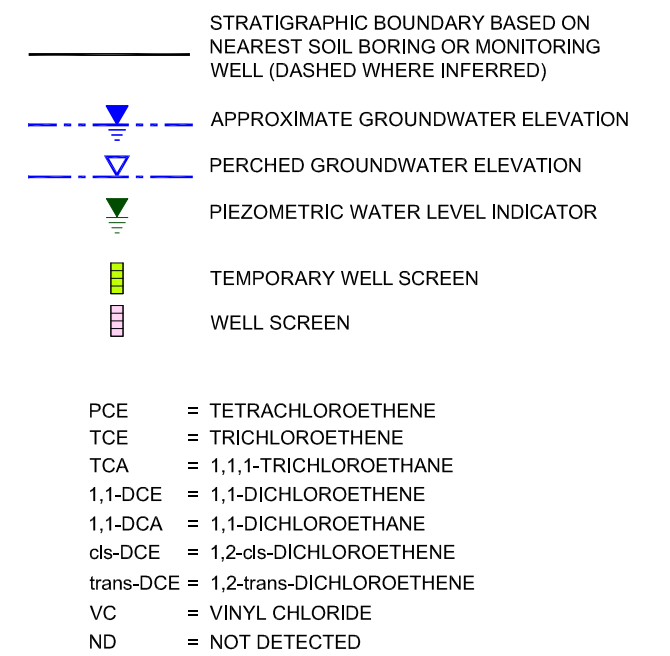
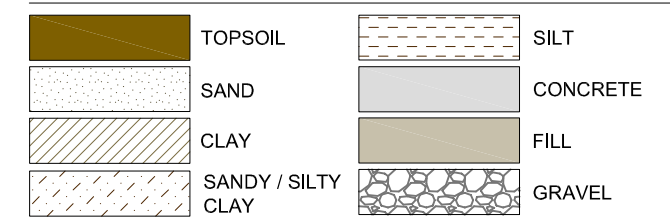


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 Plot Time: 11:13 AM
 Attached Xrefs:
 Attached Images:
 Layout: FIG08 XS D-D



GENERALIZED CROSS-SECTION E - E'

LEGEND

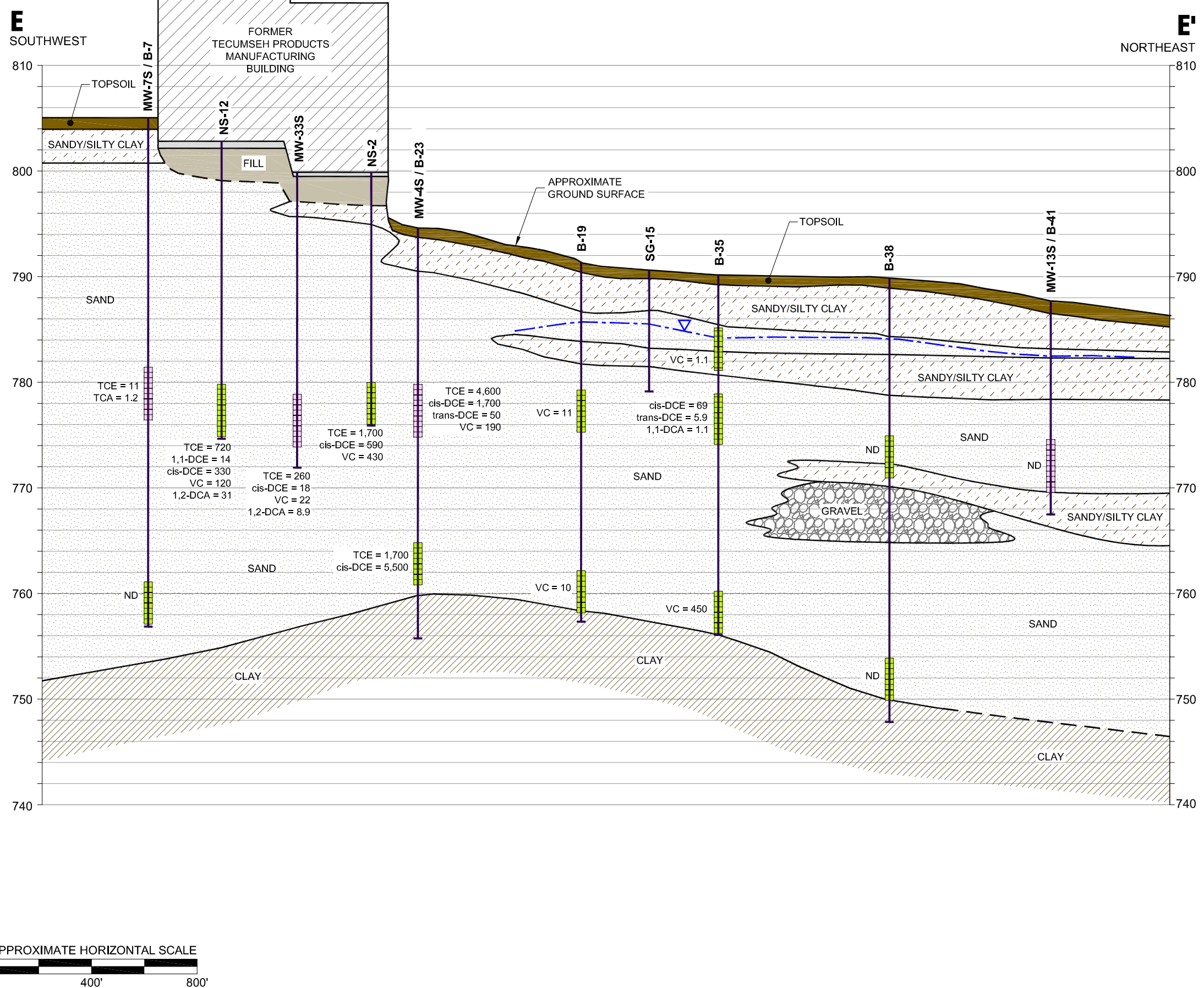


NOTES

- GROUND SURFACE AND STRATIGRAPHIC CONTACTS ARE APPROXIMATE AND EXTRAPOLATED FROM NEAREST SOIL BORING DATA.
- SEE FIGURE 4 FOR LOCATION / ORIENTATION OF THIS GEOLOGIC CROSS SECTION.
- GROUNDWATER ANALYTICAL DATA REFLECTS MOST RECENT SAMPLE EVENT AS OF SEPTEMBER 2011.
- DETECTED GROUNDWATER CONCENTRATIONS FOR CONSTITUENTS OF HIGHEST CONCERN ARE PROVIDED IN MICROGRAMS PER LITER.

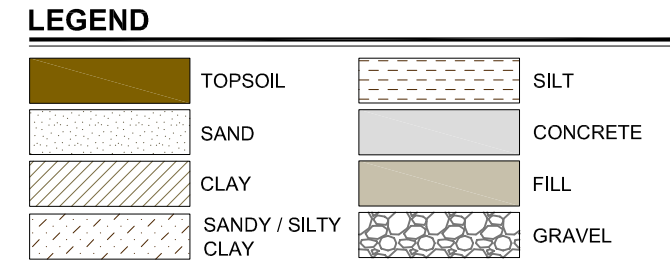
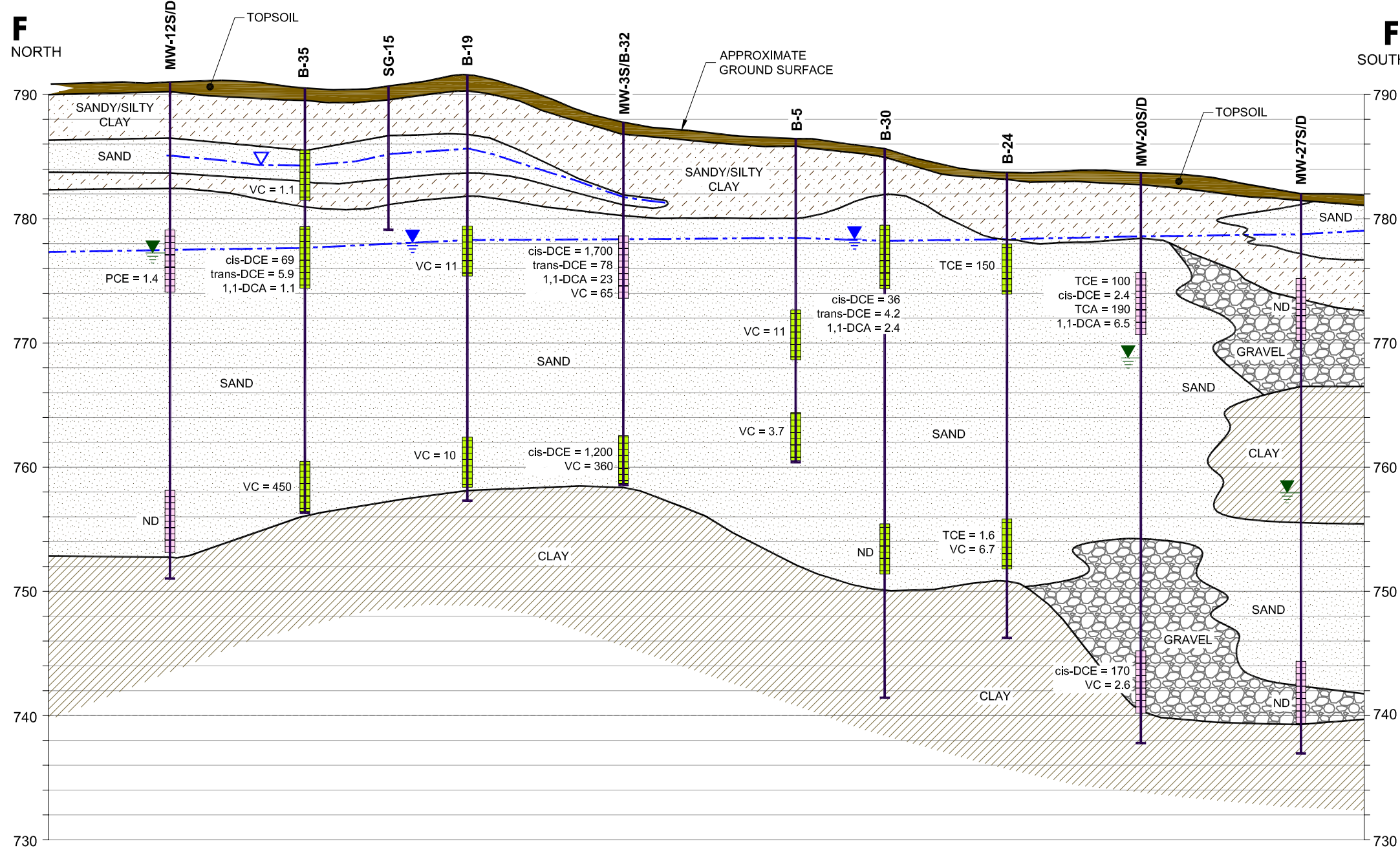
PROJECT: FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN			
TITLE: GEOLOGIC CROSS-SECTION E-E'			
DRAWN BY: DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000	
CHECKED BY: SEM	DATE PRINTED:	FILE NO. 004311.0000.05-10.dwg	
APPROVED BY: GC		FIGURE 9	
DATE: SEPTEMBER 2011			

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Fax: 734.971.9022



PLOT DATA
 Drawing Name: J:_TRC\004311\21004311.0000.05-10.dwg
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 Plot Time: 11:14 AM
 Attached Xrefs:
 Attached Images:
 Layout: FIG09 XS E-E

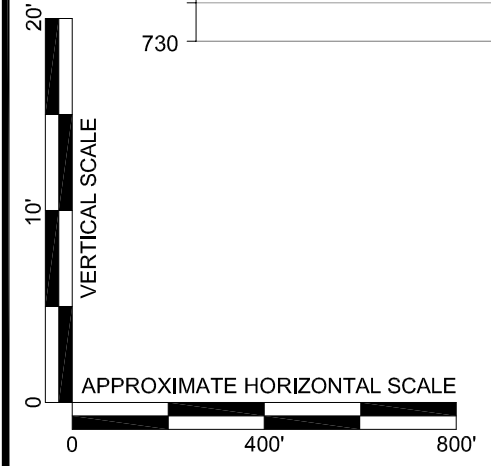
GENERALIZED CROSS-SECTION F - F'



- STRATIGRAPHIC BOUNDARY BASED ON NEAREST SOIL BORING OR MONITORING WELL (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER ELEVATION
- PERCHED GROUNDWATER ELEVATION
- PIEZOMETRIC WATER LEVEL INDICATOR
- TEMPORARY WELL SCREEN
- WELL SCREEN
- PCE = TETRACHLOROETHENE
 TCE = TRICHLOROETHENE
 TCA = 1,1,1-TRICHLOROETHANE
 1,1-DCE = 1,1-DICHLOROETHENE
 1,1-DCA = 1,1-DICHLOROETHANE
 cis-DCE = 1,2-cis-DICHLOROETHENE
 trans-DCE = 1,2-trans-DICHLOROETHENE
 VC = VINYL CHLORIDE
 ND = NOT DETECTED

- ### NOTES
- GROUND SURFACE AND STRATIGRAPHIC CONTACTS ARE APPROXIMATE AND EXTRAPOLATED FROM NEAREST SOIL BORING DATA.
 - SEE FIGURE 4 FOR LOCATION / ORIENTATION OF THIS GEOLOGIC CROSS SECTION.
 - GROUNDWATER ANALYTICAL DATA REFLECTS MOST RECENT SAMPLE EVENT AS OF SEPTEMBER 2011.
 - DETECTED GROUNDWATER CONCENTRATIONS FOR CONSTITUENTS OF HIGHEST CONCERN ARE PROVIDED IN MICROGRAMS PER LITER.

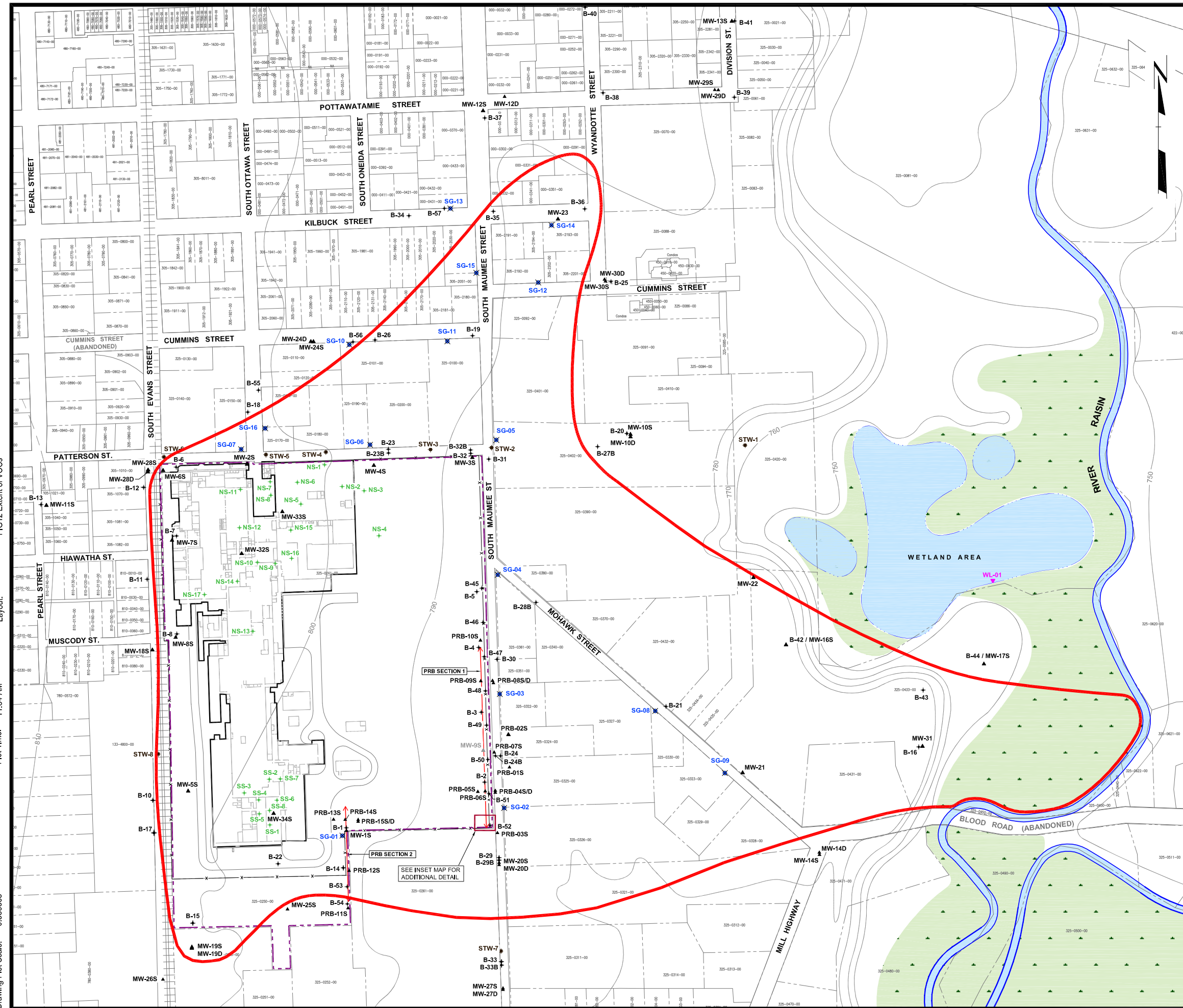
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 Drawing Plot Scale: 0.386863
 Dwg Size: 0.77 Mb
 Plot Date: September 29, 2011
 Plot Time: 11:16 AM
 Attached Xrefs:
 Attached Images:
 Layout: FIG10 XS F-F



PROJECT: FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN			
TITLE: GEOLOGIC CROSS-SECTION F-F'			
DRAWN BY: DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000	FILE NO. 004311.0000.05-10.dwg
CHECKED BY: SEM	DATE PRINTED:	FIGURE 10	
APPROVED BY: GC	DATE: SEPTEMBER 2011		

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Fax: 734.971.9022

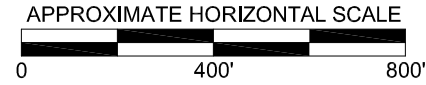
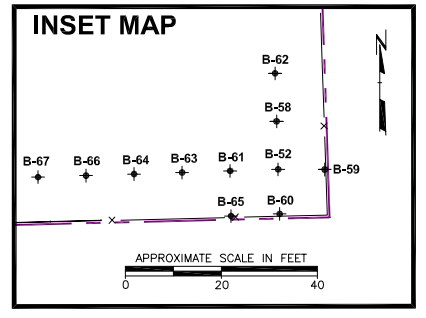
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 Plot Date: September 29, 2011
 Plot Time: 11:34 AM
 Attached Xrefs: bm033109
 Attached Images: FIG12 Extent of VOCs
 Layout:



LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MONITORING WELL LOCATION AND NUMBER
- DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SOIL GAS SAMPLE LOCATION AND NUMBER
- STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WETLAND SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- EXTENT OF VOCs ABOVE PART 201 DRINKING WATER CRITERIA

- NOTES**
1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
 2. GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP AND GROUND SURVEY DATA.



PROJECT: **FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN**

SHEET TITLE: **EXTENT OF VOCs
ABOVE PART 201 DRINKING WATER CRITERIA**

DRAWN BY: SJL/DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000
CHECKED BY: SEM	DATE PRINTED:	FILE NO. 004311.0000.12.dwg
APPROVED BY: GC	FIGURE 12	
DATE: SEPTEMBER 2011		

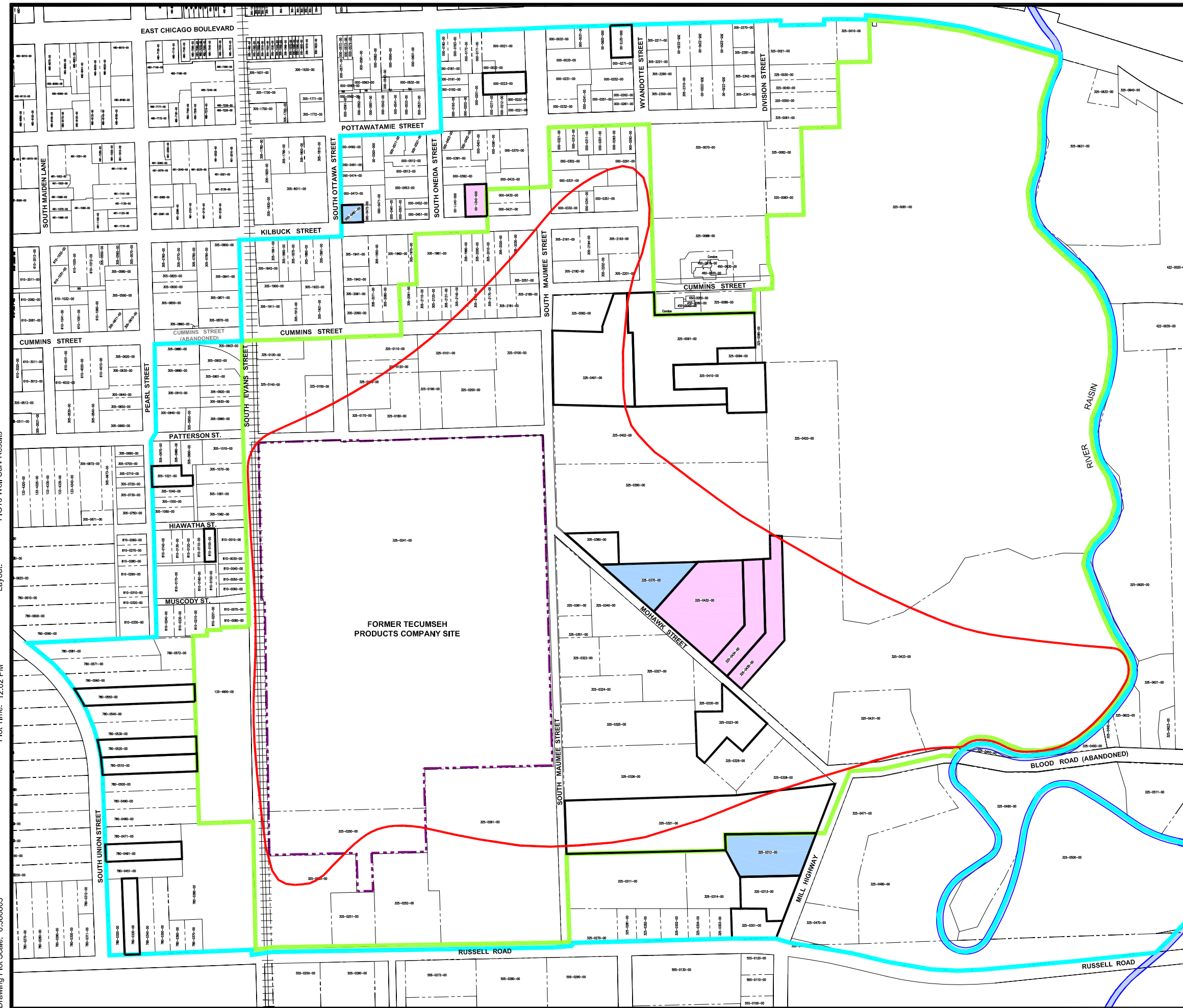
3754 Ranchero Drive
Ann Arbor, MI 48108-2237
Phone: 734.971.7080
Fax: 734.971.9022

PLOT DATA
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Dwg Size: 0.60 Mb
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Attached Xrefs:
 Attached Images:
 Layout:

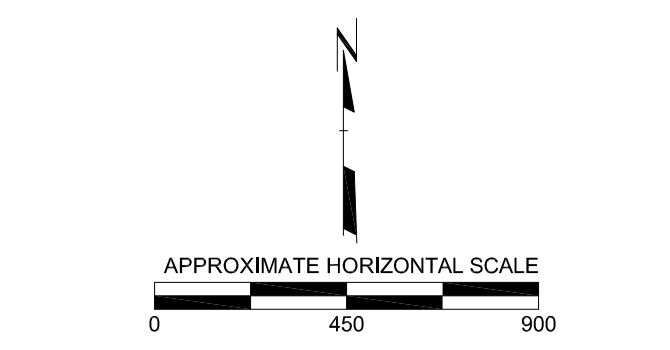
bm100110 (No Wetlands)
 FIG13 Well Surv Results



- ### LEGEND
- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
 - PARCEL BOUNDARY
 - 325-0241-00 PARCEL ID NUMBER
 - RAILROAD TRACKS (APPROXIMATE LOCATION)
 - BOUNDARY OF AREA THAT RECEIVED NOTICES OF OFF-SITE MIGRATION
 - BOUNDARY OF AREA AFFECTED BY GROUNDWATER USE ORDINANCE
 - EXTENT OF VOCs ABOVE MDEQ PART 201 DRINKING WATER CRITERIA

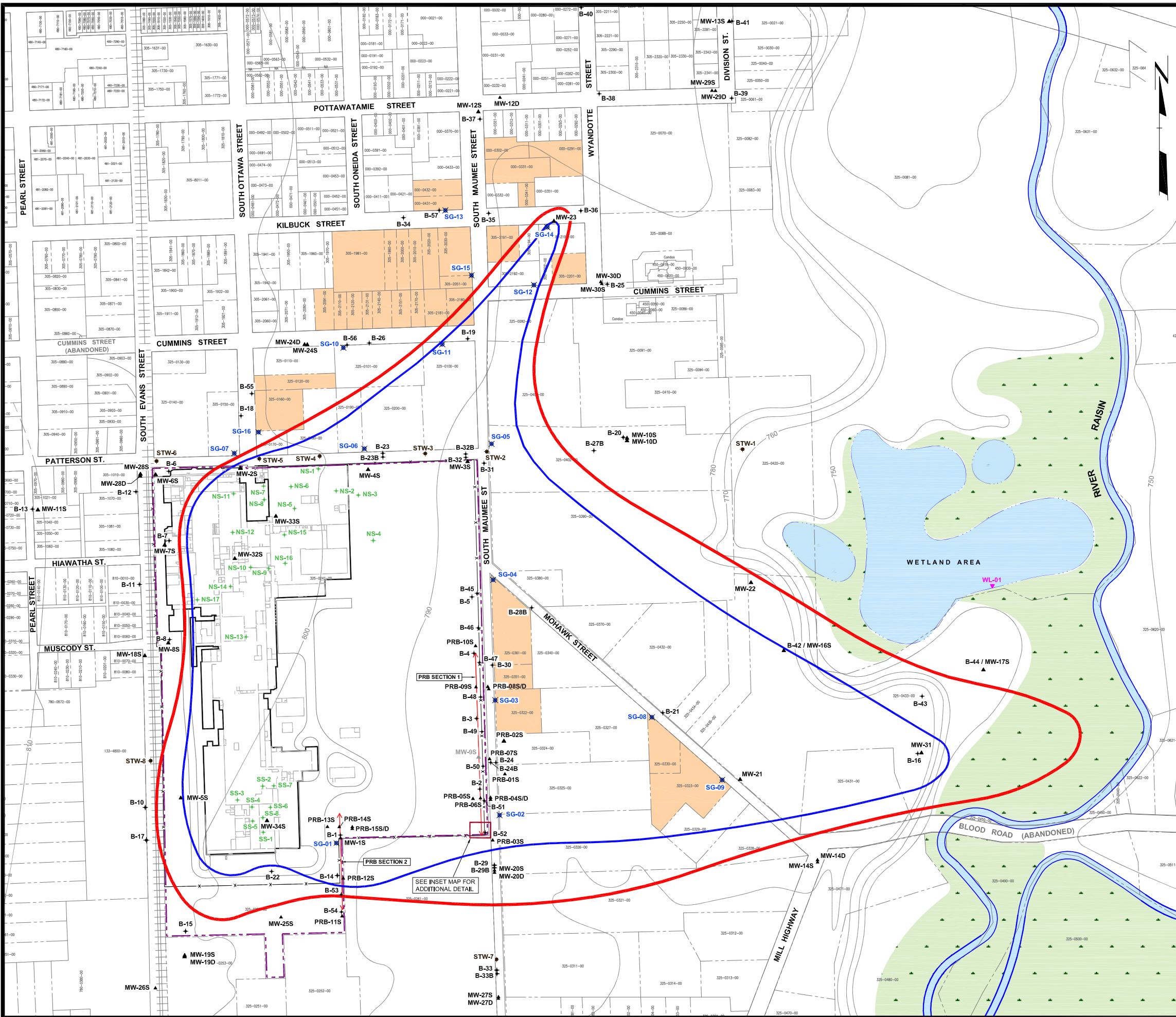
- ### SURVEY RESULTS
- PROPERTIES WITH PRIVATE WELLS NOT IN USE
 - PROPERTIES WITH PRIVATE WELLS AS A PRIMARY WATER SUPPLY
 - PROPERTIES WITH PRIVATE WELLS AS A SECONDARY WATER SUPPLY

- ### NOTES
1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.



PROJECT:		FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN	
TITLE:		WELL SURVEY RESULTS	
DRAWN BY:	SJL/DGS	SCALE:	AS INDICATED
CHECKED BY:	SEM	PROJ. NO.:	004311.0000.0000
APPROVED BY:	GC	FILE NO.:	004311.0000.13.dwg
DATE:	SEPTEMBER 2011	FIGURE 13	
		3754 Ranchero Drive Ann Arbor, MI 48108-2237 Phone: 734.971.7080 Fax: 734.971.9022	

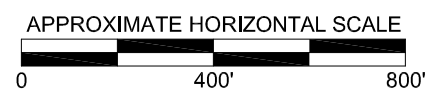
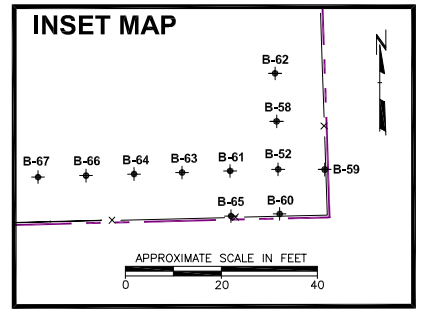
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 Plot Time: 11:37 AM
 Attached Xrefs: bm033109
 Attached Images: FIG14 Extent of VOCs Shallow GW
 Layout:



LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MONITORING WELL LOCATION AND NUMBER
- DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SOIL GAS SAMPLE LOCATION AND NUMBER
- STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WETLAND SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- RESIDENTIAL PROPERTIES WITHIN AREA OF POTENTIALLY AFFECTED GROUNDWATER
- EXTENT OF SHALLOW GROUNDWATER ABOVE RESIDENTIAL GWs
- EXTENT OF SHALLOW GROUNDWATER ABOVE NON-RESIDENTIAL GWs

- NOTES**
1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
 2. GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S TOPOGRAPHIC QUADRANGLE MAP AND GROUND SURVEY DATA.



PROJECT: **FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN**

SHEET TITLE: **EXTENT OF VOCs
ABOVE GWs IN SHALLOW GROUNDWATER**

DRAWN BY: SJL/DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0000.0000
CHECKED BY: SEM	DATE PRINTED:	FILE NO. 004311.0000.14.dwg
APPROVED BY: GC	FIGURE 14	
DATE: SEPTEMBER 2011		

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 Fax: 734.971.9022

Appendix A

List of Source Documents for EI Report Data

- **Phase II Environmental Site Assessment, Tecumseh Products Company, 100 East Patterson Street, Tecumseh, Michigan (ATC, September 4, 2009):** This document provides an assessment of historical releases at the TPC site to support due diligence requirements for CBC, including a summary of field activities conducted between December 2008 and January 2009 and an assessment of data collected during field activities.
- **Current Conditions Report (September 2009) :** This document provides a description of the site setting, a site history, a description of the nature and extent of affected media including a summary of investigation activities conducted to date, an evaluation of potential exposure pathways, and a summary response activities conducted to date.
- **Status Update – Characterization of Volatile Organic Compounds in Groundwater, Former Tecumseh Products Company Site, Tecumseh, Michigan (February 12, 2010):** This document provides a summary of field activities conducted between November 2009 and January 2010, a summary of sampling data collected during that time, an evaluation of data gaps identified by USEPA in October 2009, and a summary of proposed field activities to address the remaining data gaps.
- **Investigation and Mitigation Strategy for Indoor Air – P-Building, Former Tecumseh Products Company (TPC) Manufacturing Facility, Tecumseh, Michigan (March 8, 2010):** this document provides a summary of field activities conducted between October 2009 and February 2010 to evaluate the potential for vapor intrusion into P-Building from underlying soil and groundwater, and provides recommendations regarding the ventilation of P-Building to mitigate indoor air.
- **Investigation and Mitigation Strategy for Indoor Air – Secondary Use Area, Former Tecumseh Products Company (TPC) Manufacturing Facility, Tecumseh, Michigan (June 14, 2010):** This document provides and evaluation of the potential for vapor intrusion into the main manufacturing building on site, excluding P-Building. The evaluation includes a summary of field activities conducted between October 2009 and March 2010, sample results, and an assessment of sample results relative to applicable risk-based criteria.
- **Summary of Groundwater Investigation Activities – March 2010 through June 2010, Former Tecumseh Products Company Site, Tecumseh, Michigan (July 14, 2010):** This document provides a summary of field activities conducted between March 2010 and June 2010, a summary of recent sampling data, and an evaluation of data gaps identified by USEPA in March 2010.
- **Summary of Off-Site Soil Gas Investigation Activities – March through April 2010, Former Tecumseh Products Company Site, Tecumseh, Michigan (July 15, 2010):** This

document provides an assessment of applicable indoor air criteria, groundwater screening levels and soil gas screening levels; a summary of field activities conducted between March 2010 and April 2010; and a summary and analysis of sampling data.

- **Third Quarter 2010 Groundwater Monitoring Event, RCRA 3008(h) Consent Order (RCRA-05-2010-0012) – Tecumseh Products Company (January 6, 2011):** This document summarizes the quarterly sampling plan for groundwater, surface water and storm water; provides a description of the third quarter field activities; and an assessment of data collected.
- **Summary of 2010 Soil and Groundwater Source Area Investigation Activities, RCRA 3008(h) Consent Order (RCRA-05-2010-0012) – Tecumseh Products Company (January 10, 2011):** This document includes a description of field activities and a summary of sampling data collected in on-site source areas between June 2010 and November 2010.
- **Summary of Third and Fourth Quarter 2010 Soil Gas Monitoring Data and Activities Completed to Evaluate the Potential for Off-Site Vapor Intrusion (January 11, 2011):** This document provides applicable indoor air criteria, groundwater screening levels and soil gas screening levels; a summary of field activities conducted between September 2010 and December 2010; and a summary and analysis of sampling data.
- **Fourth Quarter 2010 and First Quarter 2011 Groundwater Monitoring Events, RCRA 3008(h) Consent Order (RCRA-05-2010-0012) – Tecumseh Products Company (April 8, 2011):** This document summarizes the quarterly sampling plan for groundwater, surface water and storm water; provides a description of the fourth quarter 2010 and first quarter 2011 monitoring activities; and an assessment of data collected.
- **Revised Workplan to Install a Permeable Reactive Barrier Downgradient of the Southern Source Area at the Former Tecumseh Products Site in Tecumseh, Michigan (May 2, 2011):** The document describes work to be performed to install a permeable reactive barrier (PRB) along the eastern perimeter of the former TPC Site and includes as an appendix a technical memorandum which summarizes investigation activities conducted to support PRB design. PRB installation, as described in the Workplan was executed in May 2011.
- **Summary of the Limited Aromatic Petroleum Hydrocarbon Investigation – April 2011 RCRA 3008(h) Consent Order (RCRA-05-2010-0012) - Tecumseh Products Company (May 13, 2011):** This document includes a description of field activities and a summary of sampling data collected in around a small area where aromatic petroleum hydrocarbons were identified during PRB investigation activities.
- **Workplan Addendum to Install Additional PRB Performance Monitoring Wells at the Former Tecumseh Products Site in Tecumseh, Michigan (July 8, 2011):** This document describes modifications made to the PRB performance monitoring network made in response to USEPA comments provided on May 24, 2001. PRB performance monitoring





network well installation and the initial sample event, as described in the Addendum, were executed in August 2011.

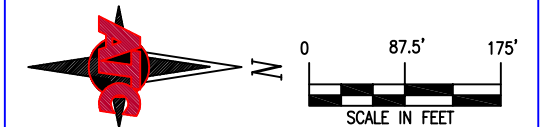
- **Second Quarter 2011 Groundwater Monitoring Event, RCRA 3008(h) Consent Order (RCRA-05-2010-0012) – Tecumseh Products Company (July 8, 2011):** This document summarizes the quarterly sampling plan for groundwater and surface water; provides a description of the second quarter 2011 monitoring activities; and an assessment of data collected.
- **Workplan for the Installation of a Sub-Slab Depressurization/Ventilation System, 610 Mohawk St., Tecumseh, Michigan (May 2011, Revived September 2011):** This document describes the proposed sub-slab depressurization/ventilation system for the residential property location at 610 Mohawk Street including performance verification.
- **Workplan for the Installation of a Sub-Slab Depressurization/Ventilation System, 704 Mohawk Street, Tecumseh, Michigan (May 2011, Revived September 2011):** This document describes the proposed sub-slab depressurization/ventilation system for the residential property location at 704 Mohawk Street including performance verification.
- **Summary of 2011 Private Well Survey Well Survey Results (September 26, 2011):** This document summarizes well survey activities conducted between March 2011 and September 2011 to document groundwater use within the area affected by the Groundwater Use Ordinance. A copy of this memorandum is included in this EI Report.

Appendix B

Data Tables and Figures from Phase II ESA

LEGEND

- GP-#  APPROXIMATE GEOPROBE LOCATION, BORINGS ADVANCED AS PART OF ATCs LIMITED PHASE II INVESTIGATION IN DEC. 2008 AND JAN. 2009.
- HB-#  HAND BORING
-  SUSPECTED LOCATION OF ABANDONED IN-PLACE USTs.
-  GROUND PENETRATING RADAR (APR) SURVEY AREA TO VERIFY ABANDONED IN-PLACE USTs.



SITE MAP

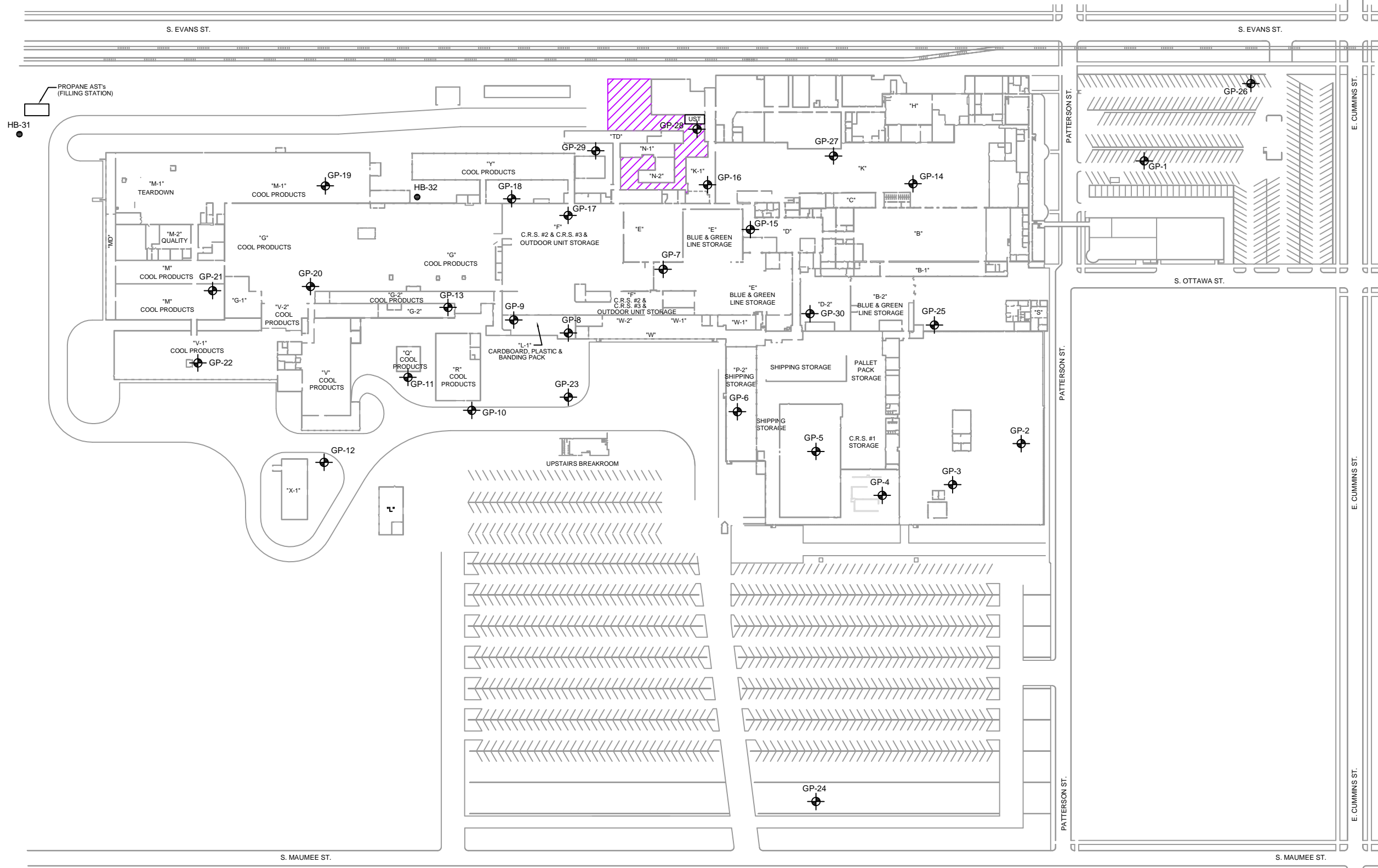
TECUMSEH PRODUCTS
100 EAST PATTERSON STREET
TECUMSEH, MICHIGAN

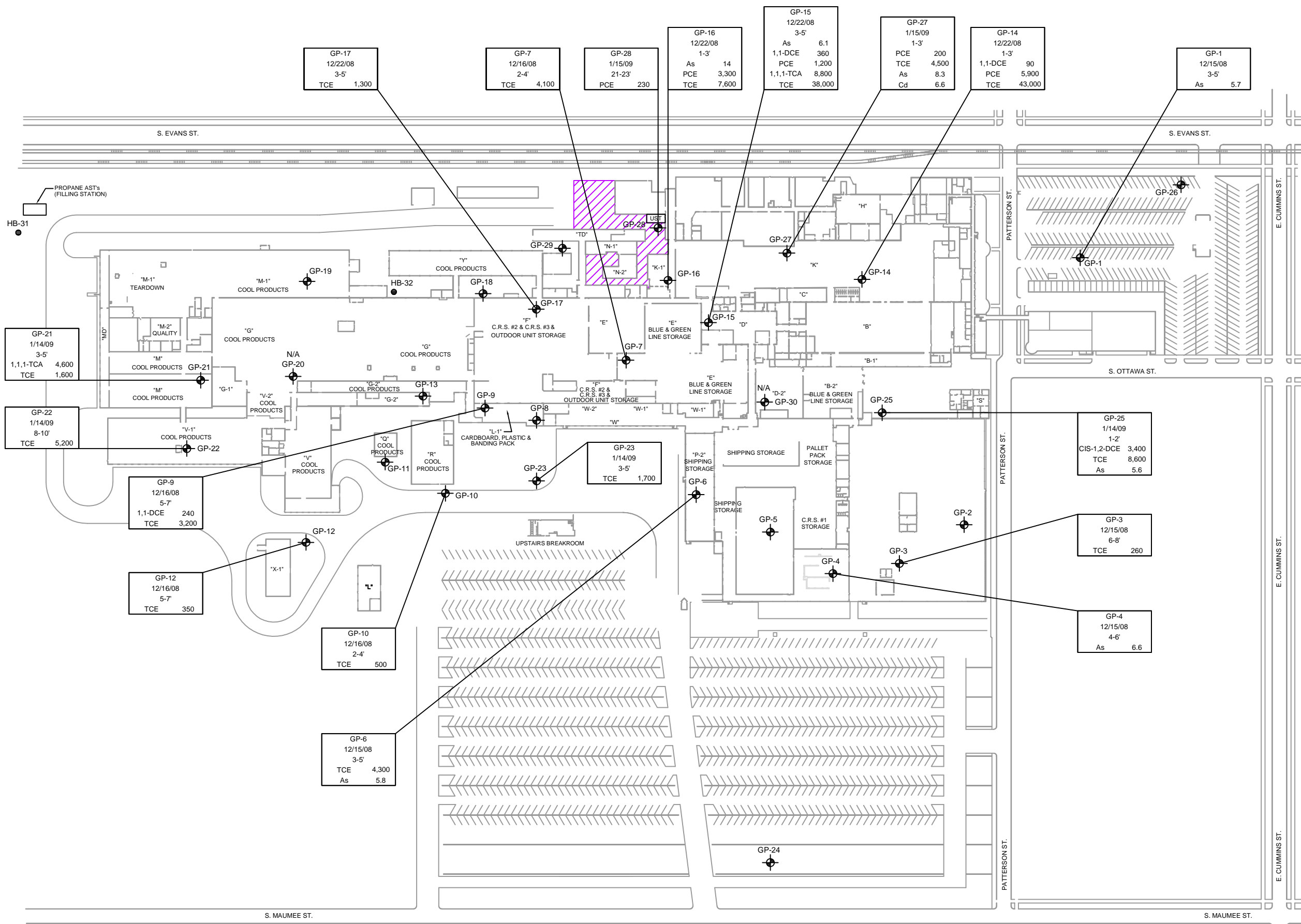
REVISIONS

DATE:	BRIEF DESCRIPTION	APPROVED

SCALE: 1"=175'	CADFILE: BN01_SITEMASTER
DRAWN BY: LJH	CHECKED BY: KF
PROJECT NUMBER: 39.75302.BN01	FIGURE: 1

ATC ASSOCIATES INC.
46555 HUMBOLDT DRIVE, SUITE 100
Novi, Michigan 48377
(248) 669-5140* Fax (248) 669-5147



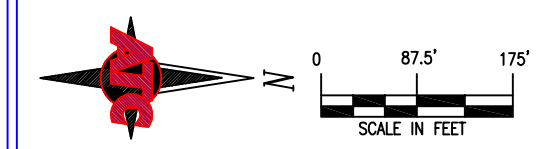


LEGEND

- GP-# APPROXIMATE GEOPROBE LOCATION, BORINGS ADVANCED AS PART OF ATCs LIMITED PHASE II INVESTIGATION IN DEC. 2008 AND JAN. 2009.
- GROUND PENETRATING RADAR (APR) SURVEY AREA TO VERIFY ABANDONED IN-PLACE USTS.
- HB-# HAND BORING
- SUSPECTED LOCATION OF ABANDONED IN-PLACE USTS.
- N/A NO SAMPLES SUBMITTED FOR LAB ANALYSIS DUE TO BORING REFUSAL.

- VOLATILES (VOLs)**
- SAMPLE LOCATION**
 SAMPLE DATE
 DEPTH BELOW GRADE
- B** BENZENE (µg/Kg)
CIS-1,2-DCE CIS-1-2-DICHLOROETHENE (µg/Kg)
1,1-DCE 1,1-DICHLOROETHENE (µg/Kg)
PCE TETRACHLOROETHENE (µg/Kg)
1,1,1-TCA 1,1,1-TRICHLOROETHANE (µg/Kg)
TCE TRICHLOROETHENE (µg/Kg)
- METALS**
As ARSENIC (mg/Kg)
Cd CADMIUM (mg/Kg)

Notes:
 BOLD/ITALIC NUMBERS FOR ANALYTICAL DATA EXCEED MOST RESTRICTIVE RBSL-CRITERIA, DRINKING WATER OR GROUNDWATER SURFACE WATER INTERFACE.



ADSORBED CONCENTRATIONS EXCEEDING CLEANUP CRITERIA
 12/15-12/16-12/22/08
 1/14-1/15-09

TECUMSEH PRODUCTS
 100 EAST PATTERSON STREET
 TECUMSEH, MICHIGAN

REVISIONS		
DATE:	BRIEF DESCRIPTION	APPROVED

SCALE: 1"=175'	CADFILE: BN01_SITEMASTER
DRAWN BY: LJH	CHECKED BY: KF
PROJECT NUMBER: 39.75302.BN01	FIGURE: 2

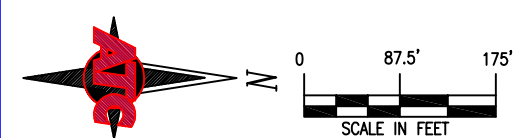
ATC ASSOCIATES INC.
 46555 HUMBOLDT DRIVE, SUITE 100
 Novi, Michigan 48377
 (248) 669-5140* Fax (248) 669-5147

LEGEND

- GP-# APPROXIMATE GEOPROBE LOCATION, BORINGS ADVANCED AS PART OF ATCs LIMITED PHASE II INVESTIGATION IN DEC. 2008 AND JAN. 2009.
- GROUND PENETRATING RADAR (APR) SURVEY AREA TO VERIFY ABANDONED IN-PLACE USTS.
- HB-# HAND BORING
- SUSPECTED LOCATION OF ABANDONED IN-PLACE USTS.
- N/A NO SAMPLES SUBMITTED FOR LAB ANALYSIS DUE TO BORING REFUSAL.

- VOLATILES (VOLA)**
- SAMPLE LOCATION**
SAMPLE DATE
DEPTH BELOW GRADE
- B** BENZENE (µg/L)
CIS-1,2-DCE CIS-1,2-DICHLOROETHENE (µg/L)
1,1-DCE 1,1-DICHLOROETHENE (µg/L)
PCE TETRACHLOROETHENE (µg/L)
1,1,1-TCA 1,1,1-TRICHLOROETHANE (µg/L)
1,2,4-TMB 1,2,4-TRIMETHYL BENZENE (µg/L)
TCE TRICHLOROETHENE (µg/L)
- Metals**
- Pb** LEAD (mg/L)

Notes:
 BOLD/ITALIC NUMBERS FOR ANALYTICAL DATA EXCEED MOST RESTRICTIVE RBSL-CRITERIA, DRINKING WATER OR GROUNDWATER SURFACE WATER INTERFACE.



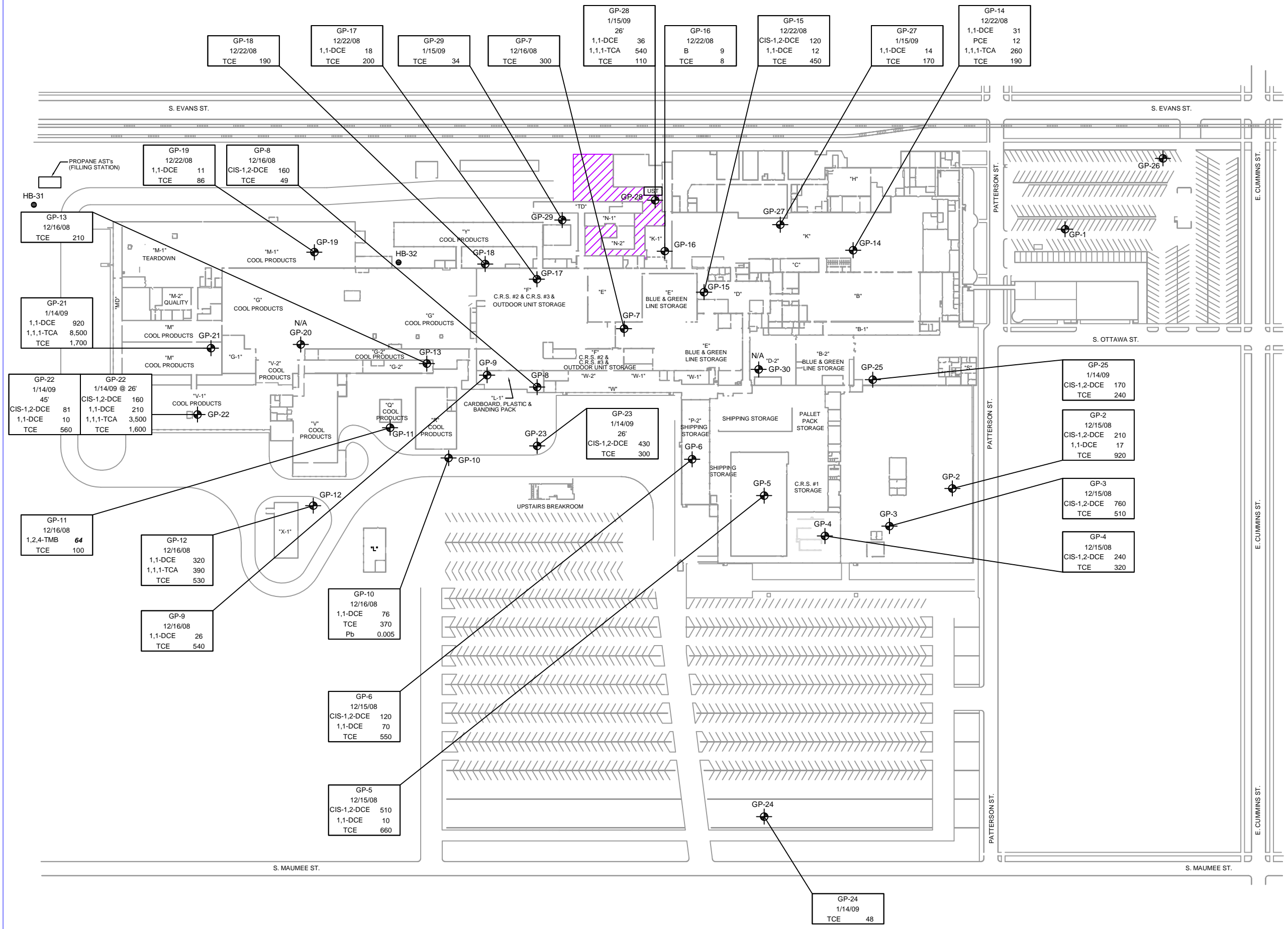
DISSOLVED CONCENTRATIONS EXCEEDING CLEANUP CRITERIA
 12/15-12/16-12/22/08
 1/14-1/15-09

TECUMSEH PRODUCTS
 100 EAST PATTERSON STREET
 TECUMSEH, MICHIGAN

REVISIONS		
DATE:	BRIEF DESCRIPTION	APPROVED

SCALE: 1"=175'	CADFILE: BN01_SITEMASTER
DRAWN BY: LJH	CHECKED BY: KF
PROJECT NUMBER: 39.75302.8N01	FIGURE: 3

ATC ASSOCIATES INC.
 46555 HUMBOLDT DRIVE, SUITE 100
 Novi, Michigan 48377
 (248) 669-5140* Fax (248) 669-5147



GP-#	Date	Depth	1,1-DCE	1,1,1-TCA	TCE	Other
GP-1	12/22/08				190	
GP-2	12/15/08		17		920	
GP-3	12/15/08		760		510	
GP-4	12/15/08		240		320	
GP-5	12/15/08		510	10	660	
GP-6	12/15/08		120	70	550	
GP-7	12/16/08				300	
GP-8	12/16/08		160		49	
GP-9	12/16/08		26		540	
GP-10	12/16/08		76		370	Pb 0.005
GP-11	12/16/08			64	100	
GP-12	12/16/08		320	390	530	
GP-13	12/16/08				210	
GP-14	12/22/08				170	
GP-15	12/22/08		120		450	
GP-16	12/22/08		9		8	
GP-17	12/22/08		18		200	
GP-18	12/22/08				190	
GP-19	12/22/08		11		86	
GP-20	N/A					
GP-21	1/14/09		920	8,500	1,700	
GP-22	1/14/09 @ 26'		160	210	1,600	
GP-23	1/14/09 @ 26'		430		300	
GP-24	1/14/09				48	
GP-25	1/14/09		170		240	
GP-26	1/15/09		14		170	
GP-27	1/15/09				14	
GP-28	1/15/09 @ 26'		36	540	110	
GP-29	1/15/09				34	
GP-30	N/A					
GP-31	12/16/08				210	

**Table 1 - Summary of Soil Analytical Results (Detected Metals)
Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Statewide Default Background Levels (mg/kg)	Residential & Commercial I Drinking Water Protection Criteria (DWPC) (mg/kg)	Residential & Commercial I Direct Contact Criteria (DCC) (mg/kg)	Soil Sample Location											
				GP-1	GP-3	GP-4	GP-6	GP-7	GP-9	GP-10	GP-12	GP-14	GP-15	GP-16	GP-17
				3-5' (mg/kg)	6-8' (mg/kg)	4-6' (mg/kg)	3-5' (mg/kg)	2-4' (mg/kg)	5-7' (mg/kg)	2-4' (mg/kg)	5-7' (mg/kg)	1-3' (mg/kg)	3-5' (mg/kg)	1-3' (mg/kg)	3-5' (mg/kg)
Metals															
Arsenic	5.8	4.6	7.6	5.7	NA	6.6	5.8	2.3	3.8	NA	NA	NA	6.1	14	NA
Barium	75	1,300	37,000	65	NA	43	160	93	70	NA	NA	NA	67	16	NA
Cadmium	1.2	6	550	0.83	0.76	0.53	1.3	0.72	0.93	1	0.44	0.39	0.18	1.5	0.08
Chromium	18	30	2,500	7.1	4.2	6.2	15	7.3	5.6	6.1	3.8	6.8	6.6	7.8	10
Copper	32	5,800	20,000	12	NA	11	89	41	14	NA	NA	NA	11	6.2	NA
Lead	21	700	400	11	6.1	7	55	13	16	15	5.7	19	28	49	8.8
Selenium	0.41	4	2,600	2.8	NA	3.5	3	0.23	0.81	NA	NA	NA	2.8	0.5	NA
Zinc	47	2,400	170,000	18	NA	13	110	100	31	NA	NA	NA	32	18	NA

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
 4. Shaded values are above one or more applicable cleanup criteria and bold font indicates a metal detected above the Default Background Level contained in Memo No. 1.
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria..
 7. mg/kg denotes milligrams per kilogram.

Table 1 - Summary of Soil Analytical Results (Detected Metals)(Continued)
Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan

Analyte	Statewide	Residential	Residential										
	Default	& Commercial I	& Commercial I	GP-21	GP-22	GP-23	GP-25	GP-26	GP-27	GP-28	GP-29	HB-31	HB-32
	Background Levels (mg/kg)	Drinking Water Protection Criteria (DWPC) (mg/kg)	Direct Contact Criteria (DCC) (mg/kg)	3-5' (mg/kg)	8-10' (mg/kg)	3-5' (mg/kg)	1-2' (mg/kg)	3-5' (mg/kg)	1-3' (mg/kg)	21-23' (mg/kg)	3-5' (mg/kg)	6" (mg/kg)	6" (mg/kg)
Metals													
Arsenic	5.8	4.6	7.6	NA	NA	NA	5.6	NA	8.3	NA	NA	NA	NA
Barium	75	13,000	37,000	NA	NA	NA	130	NA	260	NA	NA	NA	NA
Cadmium	1.2	6	550	0.47	0.55	0.22	1.8	0.39	6.6	0.34	1	9	NA
Chromium	18	30	2,500	8.8	6.8	16	11	11	16	4.7	11	24	NA
Copper	32	5,800	20,000	NA	NA	NA	100	NA	110	NA	NA	NA	NA
Lead	21	700	400	46	48	50	110	89	170	27	140	110	NA
Mercury	0.13	1.7	160	NA	NA	NA	ND	NA	0.11	NA	NA	NA	NA
Selenium	0.41	4	2,600	NA	NA	NA	1.2	NA	1.8	NA	NA	NA	NA
Zinc	47	2,400	1,700	NA	NA	NA	160	NA	260	NA	NA	NA	NA

- Notes:
1. Samples were collected on December 15, 2008 or January 14 and 15, 2009.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
 4. Shaded values are above one or more applicable cleanup criteria and bold font indicates a metal detected above the Default Background Level contained in Memo No. 1.
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria..
 7. mg/kg denotes milligrams per kilogram.

**Table 2 - Summary of Soil Analytical Results (VOCs)
Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I	Residential & Commercial I	Residential & Commercial I	Sample Location										
	Drinking Water	Direct	Soil Volatilization	GP-1	GP-3	GP-4	GP-6	GP-7	GP-9	GP-10	GP-12	GP-14	GP-15	GP-16
	Protection Criteria (DWPC) (ug/kg)	Contact Criteria (DCC) (ug/kg)	to Indoor Air Inhalation Criteria (SVIAC) (ug/kg)	3-5' (ug/kg)	6-8' (ug/kg)	4-6' (ug/kg)	3-5' (ug/kg)	2-4' (ug/kg)	5-7' (ug/kg)	2-4' (ug/kg)	5-7' (ug/kg)	1-3' (ug/kg)	3-5' (ug/kg)	1-3' (ug/kg)
VOCs														
n-Butylbenzene	1,600	2,500,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	160	ND	ND
Chloroform	1,600	1,200,000	7,200	ND	ND	ND	ND	ND	ND	ND	ND	120	64	ND
cis-1-2-Dichloroethene	1,400	640,000	22,000	ND	ND	ND	150	ND	660	ND	ND	230	1,300	410
trans-1-2-Dichloroethene	2,000	1,400,000	23,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	67
1,1-Dichloroethene	140	200,000	62	ND	ND	ND	ND	ND	240	ND	ND	90	360	ND
Ethylbenzene	1,500	140,000	87,000	ND	ND	ND	ND	ND	92	ND	ND	170	ND	ND
n-Propylbenzene	1,600	2,500,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	300	ND	ND
Tetrachloroethene	100	88,000	11,000	ND	ND	ND	ND	ND	77	ND	ND	5900	1200	3300
Toluene	16,000	250,000	250,000	ND	ND	ND	ND	ND	120	ND	ND	310	110	78
1,1,1-Trichloroethane	4,000	460,000	250,000	ND	ND	ND	ND	ND	ND	ND	ND	3,800	8,800	ND
Trichloroethene	100	500,000	7,100	ND	260	ND	4,300	4,100	3,200	500	350	43,000	38,000	7,600
1,2,4-Trimethylbenzene	2,100	110,000	110,000	ND	ND	ND	ND	ND	ND	ND	ND	890	220	ND
1,3,5-Trimethylbenzene	1,800	94,000	94,000	ND	ND	ND	ND	ND	ND	ND	ND	190	ND	ND
Xylenes	5,600	150,000	150,000	ND	ND	ND	ND	ND	220	ND	ND	1500	930	310

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 14 and 15, 2009
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL)
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised
 4. Shaded values are above one or more applicable cleanup criteria contained in Memo No. 1
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria.
 7. Ug/kg denotes micrograms per kilogram.

**Table 2 - Summary of Soil Analytical Results (VOCs)
Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I	Residential & Commercial I	Residential & Commercial I	GP-17	GP-21	GP-22	GP-23	GP-25	GP-26	GP-27	GP-28	GP-29	HB-31	HB-32
	Drinking Water Protection Criteria (DWPC) (ug/kg)	Direct Contact Criteria (DCC) (ug/kg)	Soil Volatilization to Indoor Air Inhalation Criteria (SVI AIC) (ug/kg)	3-5' (ug/kg)	3-5' (ug/kg)	8-10' (ug/kg)	3-5' (ug/kg)	1-2' (ug/kg)	3-5' (ug/kg)	1-3' (ug/kg)	21-23' (ug/kg)	3-5' (ug/kg)	3-5' (ug/kg)	3-5' (ug/kg)
VOCs														
n-Butylbenzene	1,600	2,500,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Chloroform	1,600	1,200,000	7,200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
cis-1-2-Dichloroethene	1,400	640,000	22,000	ND	ND	ND	ND	3,400	ND	200	ND	ND	ND	NA
trans-1-2-Dichloroethene	2,000	1,400,000	23,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
1,1-Dichloroethene	140	200,000	62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Ethylbenzene	1,500	140,000	87,000	ND	ND	ND	ND	ND	ND	64	ND	ND	ND	NA
n-Propylbenzene	1,600	2,500,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Tetrachloroethene	100	88,000	11,000	ND	75	ND	ND	ND	ND	200	230	ND	ND	NA
Toluene	16,000	250,000	250,000	ND	ND	ND	ND	ND	ND	230	ND	ND	ND	NA
1,1,1-Trichloroethane	4,000	460,000	250,000	ND	4,600	4,000	260	ND	ND	540	2,900	ND	ND	NA
Trichloroethene	100	500,000	7,100	1,300	1,600	5,200	1,700	8,600	ND	4,500	940	ND	ND	NA
1,2,4-Trimethylbenzene	2,100	110,000	110,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
1,3,5-Trimethylbenzene	1,800	94,000	94,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Xylenes	5,600	150,000	150,000	ND	ND	ND	ND	ND	ND	440	ND	ND	ND	NA

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 14 and 15, 2009
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL)
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised
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 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria.
 7. Ug/kg denotes micrograms per kilogram.

**Table 3 - Summary of Soil Analytical Results (PNAs/SVOCs)
Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I	Residential & Commercial I	Residential & Commercial I	Sample Location								
	Drinking Water	Direct	Soil Volatilization	GP-1	GP-3	GP-6	GP-7	GP-9	GP-10	GP-12	GP-14	GP-15
	Protection Criteria	Contact	to Indoor Air Inhalation	3-5'	6-8'	3-5'	2-4'	5-7'	2-4'	5-7'	1-3'	3-5'
	(DWPC) (ug/kg)	Criteria (DCC) (ug/kg)	Criteria (SVIAC) (ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
VOCs												
Anthracene	41,000	1,000,000,000	230,000,000	ND	ND	ND	ND	ND	ND	ND	ND	790
Acenaphthylene	5,900	1,600,000	1,600,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	NLL	20,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	1,200
Benzo(b)fluoranthene	NLL	20,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	1,500
Benzo(k)fluoranthene	NLL	200,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	510
Benzo(ghi)perylene	NLL	2,500,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	NLL	2,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	1,200
Chrysene	NLL	2,000,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	1,500
Dibenzo(ah)anthrene	NLL	2,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	730,000	46,000,000	1,000,000,000	ND	ND	ND	ND	ND	ND	ND	ND	2,900
Fluorene	390,000	27,000,000	580,000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	NLL	20,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	57,000	8,100,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	1,100
Naphthalene	35,000	16,000,000	250,000	ND	ND	ND	ND	ND	ND	ND	ND	1,800
Phenanthrene	56,000	1,600,000	2,800,000	ND	ND	ND	ND	ND	ND	ND	ND	3,200
Pyrene	480,000	29,000,000	1,000,000,000	ND	ND	ND	ND	ND	ND	ND	ND	2,800

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 15, 2009.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
 4. Shaded values are above one or more applicable cleanup criteria and bold font indicates a metal detected above the Default Background Level contained in Memo No. 1.
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, NLL = not likely to leach, and ID= Insufficient data available to establish criteria.
 7. Ug/kg denotes micrograms per kilogram.

**Table 3 - Summary of Soil Analytical Results (PNAs/SVOCs)
Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I	Residential & Commercial I	Residential & Commercial I	GP-16	GP-17	GP-21	GP-22	GP-23	GP-25	GP-26	GP-27	GP-28	GP-29	HB-31
	Drinking Water Protection Criteria (DWPC) (ug/kg)	Direct Contact Criteria (DCC) (ug/kg)	Soil Volatilization to Indoor Air Inhalation Criteria (SVIAC) (ug/kg)	1-3' (ug/kg)	3-5' (ug/kg)	3-5' (ug/kg)	8-10' (ug/kg)	3-5' (ug/kg)	1-2' (ug/kg)	3-5' (ug/kg)	1-3' (ug/kg)	21-23' (ug/kg)	3-5' (ug/kg)	6" (ug/kg)
VOCs														
Anthracene	41,000	1,000,000,000	230,000,000	ND	ND	ND	ND	ND	ND	400	ND	ND	ND	2,000
Acenaphthylene	5,900	1,600,000	1,600,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	790
Benzo(a)anthracene	NLL	20,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,100
Benzo(b)fluoranthene	NLL	20,000	ID	ND	ND	ND	ND	ND	ND	500	ND	ND	ND	4,700
Benzo(k)fluoranthene	NLL	200,000	NLV	ND	ND	ND	ND	ND	ND	500	ND	ND	ND	3,500
Benzo(ghi)perylene	NLL	2,500,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,900
Benzo(a)pyrene	NLL	2,000	NLV	ND	ND	ND	ND	ND	ND	570	ND	ND	ND	1,400
Chrysene	NLL	2,000,000	ID	ND	ND	ND	ND	ND	ND	610	ND	ND	ND	3,900
Dibenzo(ah)anthrene	NLL	2,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	680
Fluoranthene	730,000	46,000,000	1,000,000,000	ND	ND	ND	ND	ND	ND	2,300	ND	ND	ND	13,000
Fluorene	390,000	27,000,000	580,000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	730
Indeno(1,2,3-cd)pyrene	NLL	20,000	NLV	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,100
2-Methylnaphthalene	57,000	8,100,000	ID	1,400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	35,000	16,000,000	250,000	1,500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	56,000	1,600,000	2,800,000	1,200	ND	ND	ND	ND	ND	1,500	ND	ND	ND	5,700
Pyrene	480,000	29,000,000	1,000,000,000	ND	ND	ND	ND	ND	ND	1,700	ND	ND	ND	11,000

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 15, 2009.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
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 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, NLL = not likely to leach, and ID= Insufficient data available to establish criteria.
 7. Ug/kg denotes micrograms per kilogram.

Table 4 - Summary of Groundwater Analytical Results (Metals)

**Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I	Residential & Commercial I														
	Drinking Water Criteria (DWC) (ug/L)	Groundwater Contact Criteria (GCC) (ug/L)	GP-1 (ug/L)	GP-2 (ug/L)	GP-3 (ug/L)	GP-4 (ug/L)	GP-5 (ug/L)	GP-6 (ug/L)	GP-7 (ug/L)	GP-8 (ug/L)	GP-9 (ug/L)	GP-10 (ug/L)	GP-11 (ug/L)	GP-12 (ug/L)	GP-13 (ug/L)	GP-14 (ug/L)
VOCs																
Barium	2000	14000000	110	NA	ND	NA	ND	NA	ND	NA	ND	ND	100	ND	ND	NA
Copper	1000	7400000	ND	NA	6	NA	10	NA	ND	NA	ND	11	ND	6	8	NA
Lead	4	ID	ND	ND	ND	ND	ND	3	ND	ND	ND	5	ND	ND	3	ND

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 14 and 15, 2009.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
 4. Shaded values are above one or more applicable cleanup criteria and bold font indicates a metal detected above the Default Background Level contained in Memo No. 1.
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria..
 7. Ug/L denotes micrograms per liter.

Table 4 - Summary of Groundwater Analytical Results (Metals)(Continued)

**Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I	Residential & Commercial I															
	Drinking Water Criteria (DWC) (ug/L)	Groundwater Contact Criteria (GCC) (ug/L)	GP-15 (ug/L)	GP-16 (ug/L)	GP-17 (ug/L)	GP-18 (ug/L)	GP-19 (ug/L)	GP-20 (ug/L)	GP-21 (ug/L)	GP-22 (ug/L)	GP-23 (ug/L)	GP-24 (ug/L)	GP-25 (ug/L)	GP-26 (ug/L)	GP-27 (ug/L)	GP-28 (ug/L)	GP-29 (ug/L)
VOCs																	
Barium	2000	14000000	NA	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	NA	ND	NA	NA
Copper	1000	7400000	NA	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	NA	ND	NA	NA
Lead	4	ID	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 14 and 15, 2009.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
 4. Shaded values are above one or more applicable cleanup criteria and bold font indicates a metal detected above the Default Background Level contained in Memo No. 1.
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria..
 7. Ug/L denotes micrograms per liter.

Table 5 - Summary of Groundwater Analytical Results (VOCs, PNAs/SVOCs and Cyanide)

**Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I			Sample Location																
	Drinking Water Criteria (DWC) (ug/L)	Groundwater Contact Criteria (GCC) (ug/L)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC) (ug/L)	GP-1 (ug/L)	GP-2 (ug/L)	GP-3 (ug/L)	GP-4 (ug/L)	GP-5 (ug/L)	GP-6 (ug/L)	GP-7 (ug/L)	GP-8 (ug/L)	GP-9 (ug/L)	GP-10 (ug/L)	GP-11 (ug/L)	GP-12 (ug/L)	GP-13 (ug/L)	GP-14 (ug/L)	GP-15 (ug/L)	GP-16 (ug/L)	
VOCs																				
Benzene	5	11,000	5,600	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	
n-Butylbenzene	80	5,900	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	ND	
Chloroethane	430	440,000	5,700,000	ND	ND	43	9	23	11	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform	80	150,000	28,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	ND	3	ND	ND	ND	ND	
cis-1-2-Dichloroethene	70	200,000	93,000	ND	210	760	240	510	120	4	160	9	36	15	7	1	ND	120	3	
1,1-Dichloroethane	880	2,400,000	1,000,000	ND	11	25	18	160	84	ND	9	89	3	ND	3	ND	8	31	30	
1,1-Dichloroethene	7	11,000	200	ND	17	2	4	10	70	3	ND	26	76	3	320	6	31	12	2	
trans-1,2-Dichloroethene	100	220,000	85,000	ND	4	27	22	12	1	ND	11	2	ND	ND	ND	ND	ND	3	1	
Ethylbenzene	74	170,000	110,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND	ND	ND	3	
n-Propylbenzene	80	15,000	ID	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	
Tetrachloroethene	5	12,000	25,000	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	3	ND	
1,1,2-Trichloroethane	5	21,000	17,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	ND	ND	ND	1	ND	2	
Toluene	790	530,000	530,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	
1,1,1-Trichloroethane	200	1,300,000	660,000	ND	16	ND	ND	ND	60	3	ND	31	34	4	390	6	260	150	16	
1,2,4-Trimethylbenzene	63	56,000	56,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	64	ND	ND	ND	ND	4	
1,3,5-Trimethylbenzene	72	61,000	61,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	35	ND	ND	ND	ND	1	
Trichloroethene	5	22,000	15,000	ND	920	510	320	660	550	300	49	540	370	100	530	210	190	450	8	
Trichlorofluoromethane	2,600	1,100,000	110,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Xylenes	280	190,000	190,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	
PNAs/SVOCs																				
2-Methylnaphthalene	260	25,000	ID	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	
Naphthalene	520	31,000	31,000	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	
Cyanide	200	57,000	NLV	NA	ND	ND	NA	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA	NA	5	

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 14 and 15, 2009.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
 4. Shaded values are above one or more applicable cleanup criteria and bold font indicates a metal detected above the Default Background Level contained in Memo No. 1.
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria..
 7. Ug/L denotes micrograms per liter.

Table 5 - Summary of Groundwater Analytical Results (VOCs, PNAs/SVOCs and Cyanide)(Continued)

**Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Analyte	Residential & Commercial I			GP-17 (ug/L)	GP-18 (ug/L)	GP-19 (ug/L)	GP-20 (ug/L)	GP-21 (ug/L)	GP-22 @26' (ug/L)	GP-22 @45' (ug/L)	GP-23 @26' (ug/L)	GP-23 @35' (ug/L)	GP-24 (ug/L)	GP-25 (ug/L)	GP-26 (ug/L)	GP-27 (ug/L)	GP-28 @26' (ug/L)	GP-28 @45' (ug/L)	GP-29 (ug/L)	GP-30 (ug/L)
	Drinking Water Criteria (DWC) (ug/L)	Groundwater Contact Criteria (GCC) (ug/L)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIAIC) (ug/L)																	
VOCs																				
Benzene	5	11,000	5,600	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
n-Butylbenzene	80	5,900	ID	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Chloroethane	430	440,000	5,700,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Chloroform	80	150,000	28,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
cis-1,2-Dichloroethene	70	200,000	93,000	ND	1	ND	NA	ND	160	81	430	ND	ND	170	ND	ND	ND	ND	ND	NA
1,1-Dichloroethane	880	2,400,000	1,000,000	47	ND	ND	NA	47	160	6	32	ND	ND	87	ND	ND	23	ND	ND	NA
1,1-Dichloroethene	7	11000	200	18	ND	11	NA	920	210	10	ND	ND	ND	ND	ND	14	36	ND	ND	NA
trans-1,2-Dichloroethene	100	220,000	85,000	ND	ND	ND	NA	ND	ND	21	27	ND	ND	10	ND	ND	ND	ND	ND	NA
Ethylbenzene	74	170,000	110,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
n-Propylbenzene	80	15,000	ID	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Tetrachloroethene	5	12,000	25,000	1	1	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	NA
1,1,2-Trichloroethane	5	21,000	17,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Toluene	790	530,000	530,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
1,1,1-Trichloroethane	200	1,300,000	660,000	200	3	71	NA	8,500	3,500	38	ND	ND	ND	ND	ND	120	540	ND	ND	NA
1,2,4-Trimethylbenzene	63	56,000	56,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
1,3,5-Trimethylbenzene	72	61,000	61,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Trichloroethene	5	22,000	15,000	200	190	86	NA	1,700	1600	560	300	ND	48	240	ND	170	110	ND	34	NA
Trichlorofluoromethane	2,600	1,100,000	1,100,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Xylenes	280	190,000	190,000	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
PNAs/SVOCs																				
2-Methylnaphthalene	260	25,000	ID	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	NA	NA
Naphthalene	520	31,000	31,000	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	NA	NA
Cyanide	200	57,000	NLV	6	NA	NA	NA	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA	NA	NA

- Notes:
1. Samples were collected on December 15, 16 and 22, 2008, or January 14 and 15, 2009.
 2. NA denotes "Not Analyzed". ND denotes the indicated laboratory parameter was not detected above the laboratory reported detection limit (RDL).
 3. The cleanup criteria are derived from the MDEQ-RRD, Operational Memorandum No. 1 (Memo No. 1) dated December 10, 2004, as revised.
 4. Shaded values are above one or more applicable cleanup criteria and bold font indicates a metal detected above the Default Background Level contained in Memo No. 1.
 5. All samples were analyzed at Lakeland Analytical Laboratories, Inc. located in Pinckney, Michigan.
 6. NLV = not likely to volatilize, ID= Insufficient data available to establish criteria..
 7. Ug/L denotes micrograms per liter.

Table 6 - Summary of Soil Borings, Evaluated Potential Environmental Concerns, Analytical Rationale/Field Screening Results

**Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan**

Boring/Sample ID*	Purpose of Boring Location** and Potential Environmental Concern/s	Soil and Groundwater Sample (where collected) Laboratory Analysis	Rationale for Soil and/or Ground-water (where present) Sample Laboratory Analysis (based on potential environmental concern)	Rationale for Soil and/or Groundwater Sample Selected (based on field screening results) for Laboratory Analysis
GP-1 (3'-5' bgs)	Former foundry area	VOCs, SVOCs, Metals and/or PCBs	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) to 6 feet bgs
GP-2 (GW sample only)	Wire stripping and/or paint use	VOCs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Sampled groundwater at soil/groundwater interface
GP-3 (6'-8' bgs)	Wire stripping and/or paint use	VOCs, SVOCs/PNAs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL
GP-4 (4'-6' bgs)	General area coverage	VOCS, PNAs, Metals and/or PCBs	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) and PID readings
GP-5 (GW sample only)	General area coverage	VOCs, SVOCs, and/or Metals	Common indicator parameters for commercial/industrial properties and processes.	General site coverage with groundwater sampled at soil/groundwater interface
GP-6 (3'-5' bgs)	Suspected down gradient of former fuel oil tank	VOCs, SVOCs, Metals and/or PCBs	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) and PID readings
GP-7 (2'-4' bgs)	Foundry/paint line/oil house	VOCs, SVOCs, Metals, PCBs and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL (sand with slag) and PID readings
GP-8 (GW only)	Sump, trench/solvent use	VOCs, SVOCs, Metals, PCBs and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Sampled groundwater at soil/groundwater interface
GP-9 (5'-7' bgs)	Sump, trench/solvent use	VOCs, PNAs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL and PID readings
GP-10 (2'-4' bgs)	Suspected downgradient of large ASTs/new waste water treatment plant	VOCs, SVOCs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) and PID readings
GP-11 (GW sample only)	Downgradient of hazardous materials storage building (55-gallon drums, etc.)	VOCs, SVOCs, Metals and Cyanide	Common indicator parameters for commercial/industrial properties and processes.	General site coverage with groundwater sampled at soil/groundwater interface
GP-12 (5'-7' bgs)	Suspected down gradient and general site coverage	VOCs, SVOCs/PNAs, Metals, PCBs and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) and PID readings in vadose zone
GP-13 (GW sample only)	Paint lines and/or solvent use	VOCs, PNAs and Metals	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL and general site coverage with groundwater sampled at soil/groundwater interface
GP-14 (1'-3' bgs)	Former Foundry Area and machining area	VOCs, SVOCs/PNAs, Metals and/or PCBs	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL with slag at the surface, PID readings and general site coverage
GP-15 (3'-5' bgs)	Former foundry area and paint line with possible solvent use	VOCs, SVOCs/PNAs, Metals and/or PCBs	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e brick and slag) at the surface, and PID readings

Notes: If soil samples are collected, the soil sample depths are shown in parentheses next to the sample ID. The groundwater samples were generally collected from the saturated zones immediately below the vadose zone. However in select borings, groundwater samples were collected from different depths within the saturated zone. Each of the above borings were located for general site coverage in addition to the purpose listed above.

Table 6 - Summary of Soil Borings, Evaluated Potential Environmental Concerns, Analytical Rationale/Field Screening Results (continued)

Tecumseh Products
100 East Patterson Street
Tecumseh, Michigan

Boring/Sample ID*	Purpose of Boring Location** and Potential Environmental Concern/s	Soil and Groundwater Sample (where collected) Laboratory Analysis	Rationale for Soil and/or Groundwater (where present) Sample Laboratory Analysis (based on potential environmental concern)	Rationale for Soil and/or Groundwater Sample Selected (based on field screening results) for Laboratory Analysis
GP-16 (1'-3' bgs)	Old waste water treatment plant with trenching, sump and possible UST	VOCs, SVOCs, Metals, PCBs and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL and PID readings
GP-17 (3'-5' bgs)	Suspected down gradient of UST area and boiler room	VOCs, SVOCs/PNAs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL at the surface, PID readings and site coverage
GP-18 (GW only)	Suspected down gradient of railroad tracks, drum storage and near staining in basement	VOCs, PNAs and/or Metals	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) and PID readings
GP-19 (GW sample only)	General coverage and down gradient of railroad tracks	VOCs, PNAs and Metals	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) and PID readings
GP-20 (no sample collected)	General coverage	No samples recovered	Common indicator parameters for commercial/industrial properties and processes.	Boring was terminated at a depth of about 6 feet bgs due to the presence of a water main and no sample was collected
GP-21 (3'-5' bgs)	Suspected former solvent use/storage	VOCs, PNAs and/or Metals	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL and PID readings
GP-22 (8'-10' bgs) GW sample at 26' & 45'	Suspected former solvent use/storage and downgradient of solvent use/storage	VOCs, SVOCs/PNAs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. steel bolts) and PID readings
GP-23 (3'-5' bgs) GW sample at 26' & 35'	Suspected area of former hazardous waste storage area	VOCs, SVOCs/PNAs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with slag and elevated PID readings
GP-24 (GW sample only)	Down gradient of site and at suspected downgradient site boundary	VOCs, SVOCs/PNAs, Metals and Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled fill with debris (i.e. brick fragments) at the surface and shallow water table
GP-25 (1'-2' bgs)	Dumpster/metal shavings storage area	VOCs, SVOCs, Metals, PCBs and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Dark gray color of the soils beneath the surficial concrete and PID readings
GP-26 (3'-5' bgs)	Former foundry	VOCs, SVOCs, Metals and PCBs	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL with debris (i.e. brick fragments) and PID readings
GP-27 (1'-3' bgs)	Former foundry area and machining area	VOCs, SVOCs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments and slag) and PID readings in vadose zone
GP-28 (21'-23' bgs) GW sample at 26' & 45'	Reported former and closed-in-place UST area with suspected UST per GPR Survey	VOCs, PNAs, Metals and/or Cyanide	Common indicator parameters for commercial/industrial properties and processes.	Uncontrolled FILL with debris (i.e. brick fragments) and PID readings
GP-29 (3'-5' bgs)	Used oil and empty drum area and railroad tracks	VOCs, PNAs and Metals	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL and PID readings
GP-30 (boring refusal with no samples)	General coverage. No samples due to auger refusal	No samples collected due to refusal	NA	Boring was terminated at a depth of about 2 feet bgs due to refusal and no sample was collected
GP-31 (6-inches bgs) (soil only)	Missing/stressed vegetation	VOCs, PNAs and Metals	Common indicator parameters for commercial/industrial properties and processes.	Possible uncontrolled FILL and PID readings
GP-32 (6-inches bgs) (soil only)	Stressed vegetation and staining near electrical transformer	PCBs	Common indicator parameter for transformer oil	Possible uncontrolled FILL and PID readings

Notes: If soil samples are collected, the soil sample depths are shown in parentheses next to the sample ID. The groundwater samples were generally collected from the saturated zones immediately below the vadose zone. However in select borings, groundwater samples were collected from different depths within the saturated zone. Each of the above borings were located for general site coverage in addition to the purpose listed above.

Appendix C

Groundwater Use Ordinance

CITY OF TECUMSEH

AN ORDINANCE TO AMEND CHAPTER 82 UTILITIES ARTICLE IV. WATER SUPPLY SYSTEM OF THE TECUMSEH CITY CODE OF ORDINANCES TO PROHIBIT PRIVATE WATER WELLS WITHIN THE CITY OF TECUMSEH CITY, REQUIRE CONNECTION TO THE MUNICIPAL WATER SYSTEM WHEN SERVICE IS WITHIN 250 FEET, PROVIDE EXCEPTIONS FOR CURRENT WATER WELLS AND PROVIDE PENALTIES FOR VIOLATIONS.

THE CITY OF TECUMSEH ORDAINS:

1. Article IV. City Water Utility Section 82-120 shall be added to read as follows:

Sections 82-120. Private Water Wells

- (1) Definitions. The following definitions shall apply in the interpretation of this Section:
 - (a) "Applicant" means a person who is applying under Section 13 of this Ordinance for an addition or modification to a restricted zone.
 - (b) "Construction site dewatering" means temporary removal of ground water from an excavating site.
 - (c) "Owner" means the person holding the legal or equitable title to real property or a lesser estate therein, a mortgagee or vendee in possession, an assignee of rents, receiver, executor, trustee, lessee or any other person, firm or corporation directly or indirectly in control of a building, structure or real property or his duly authorized agent.
 - (d) "Person" means any individual, partnership, corporation, limited liability company, association, organization or other legal entity.
 - (e) "City" means the City of Tecumseh.
 - (f) "City water service" means the water supplied by the City of Tecumseh.
 - (g) "Water well" means a hole drilled or bored into the earth for the purpose of removing water through mechanical or non-mechanical means.
 - (h) "Restricted zone" is the area depicted on Figure I, prepared by RMT and dated March 2010, which accompanies this Ordinance, and any other areas so designated pursuant to Section 13 of this Ordinance.
- (2) Purpose. The purpose of this Ordinance is to protect public health, safety and welfare by preventing public exposure to an area of likely or known groundwater contamination.
- (3) Private Water Wells Prohibited. Except as provided in Subsection (4), no person shall install, construct, develop, maintain or use a water well within a restricted zone.

- (4) Permitted Water Wells. The following water wells are not prohibited by this Ordinance:
- (a) A water well used solely for the purpose of construction site dewatering or for conducting response activities, including sampling or treatment of the groundwater, provided that: (i) prior notice of the well is given to the City Manager, (ii) the Owner has demonstrated to the City Manager's satisfaction that the use of the well will not result in exposure to contaminated groundwater, possible cross-contamination between zones of groundwater, or hydrogeological effects on contaminated groundwater plumes, and (iii) the water generated by the well is properly handled and disposed of in compliance with all applicable laws, rules, regulations, permit and license requirements, orders and directives of any governmental entity or agency of competent jurisdiction.
 - (b) Municipal wells operated by the City for its municipal water supply, provided such wells are subject to groundwater monitoring under the oversight of the Michigan Department of Natural Resources and Environment Drinking Water and Radiological Protection Division, and/or its successor agency or designee, in accordance with Act 399 of 1976, The Michigan Safe Drinking Water Act, and applicable Administrative Rules promulgated thereunder.
 - (c) A geothermal type well for non-contact heating, cooling or processing activities, provided the well is a closed-loop design which does not allow fluid in the coils to be in direct contact with the subsurface, and further provided that Owner has demonstrated to the City Manager's satisfaction that the closed loop system and associated wells will not penetrate a confining clay layer and will be constructed and grouted in accordance with relevant construction criteria.
- (5) Large Capacity Wells. No well may be installed or used at any place in the City if its use will cause the migration of contaminated groundwater into previously unaffected groundwater, or will adversely affect any groundwater treatment system, unless the well is part of an MDEQ or US EPA approved groundwater monitoring or remediation system.
- (6) Connection to City Water Service Required. The owner of any house, building, or property used for human occupancy, employment, recreation, or other purposes situated within the restricted zone or who is prohibited from installing a well by Section 3(b) of this Ordinance, is hereby required at his or her expense to install suitable plumbing facilities therein, in accordance with the plumbing codes then in effect and enforced within the City and to connect such facilities directly with the City water service in accordance with the requirements of the City of Tecumseh City Code of Ordinances.

- (7) Existing Wells. Any existing well, the use of which is prohibited by Section 3(a), except as permitted under Section 4, shall be plugged or abandoned in conformance with Rules established by the Michigan Department of Environmental Quality ("MDEQ") and applicable Lenawee County Ordinance and Regulation.
- (8) Violations. Any person who violates any provision of this Section shall be responsible for a municipal civil infraction as defined in Public Act 12 of 1994, amending Public Act 236 of 1961, being Sections 600.101-600-9939 of Michigan Compiled Laws, and shall be subject to a fine of not more than Five Hundred and 00/100 (\$500.00) Dollars. Each day this Section is violated shall be considered a separate violation.
- (9) Enforcement Officials. The City Manager is authorized to issue municipal civil infraction citations.
- (10) Nuisance Per Se. A violation of this Section is hereby declared to be a nuisance per se and is declared to be offensive to the public health, safety and welfare.
- (11) Civil Remedies. In addition to enforcing this Section through the use of a municipal civil infraction proceeding, the City may initiate proceedings in the Circuit Courts to abate or eliminate the nuisance per se or any other violation of this Section.
- (12) Severability. If any provision of this Section or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect any remaining portion or application of this Section which can be given effect without the invalid portion or application.
- (13) Amendments. The City shall notify the MDEQ at least thirty (30) days prior to adopting a modification to this Ordinance or the lapsing or revocation thereof, including any modification to add to or remove property from a restricted zone.
- (14) Additions or Modifications to Restricted Zone.
 - (a) Removing Property from Restricted Zone.
 - (i) An owner of property located in the City within a restricted zone may apply to the City to remove property from the restricted zone upon a demonstration that such property need not be included in the restricted zone because of improved conditions in the affected groundwater.

(ii) The Application must include the MDEQ's written and specific concurrence with the requested action, as well as all documentation on which MDEQ based its concurrence.

(iii) The Application must be accompanied by payment of an application fee established by resolution of the City Council, intended to cover the City's anticipated out-of-pocket expenses to review and respond to the Application.

(b) Adding Property to or Establishing a Restricted Zone.

(i) Property may be added to a restricted zone or a new restricted zone established on a case-by-case basis following the procedures set forth in this section. An Applicant shall file an Application with the City to add property to a restricted zone or establish a new restricted zone. The Applicant shall include a fee established by resolution of the Council, intended to cover the City's anticipated out-of-pocket expenses to review and respond to the Application. The Application shall describe the proposed location to be added, and the nature of the proposed use restrictions.

(ii) The Applicant shall include all documentation submitted to the MDEQ, along with a written statement from a MDEQ representative with approval authority stating that the proposed restricted zone and use regulations have received MDEQ approval as part of the response actions for groundwater contamination.

(iii) The Applicant shall include notices provided to the Lenawee County Health Department concerning the property, and the Health Department's written acknowledgment that it will not issue permits for prohibited wells within the property to be added to the restricted zone.

(c) Council Action.

(i) Once the City Manager or his or her designee is satisfied that a restricted zone application is complete, the City Manager shall place the matter on the City Council agenda for a public hearing.

(ii) After the City Council sets the public hearing, the City Manager or his or her designee shall cause a written notice of the hearing to be sent by first class mail to all persons having an interest as owner, tenant, easement holder or mortgagee in any property included in the Application. The notice shall describe the Application and identify its main features and potential impact on the recipients. The notice shall be mailed at least ten (10) days, but not more than twenty (20) days, prior to the date of the hearing. The notice shall also be mailed to the appropriate MDEQ representatives.

(iii) After the public hearing, the City Council shall act on the application within thirty (30) days, unless it determines that it needs more information before it can decide. In that case, it shall act on the application within thirty (30) days after it has received the additional information.

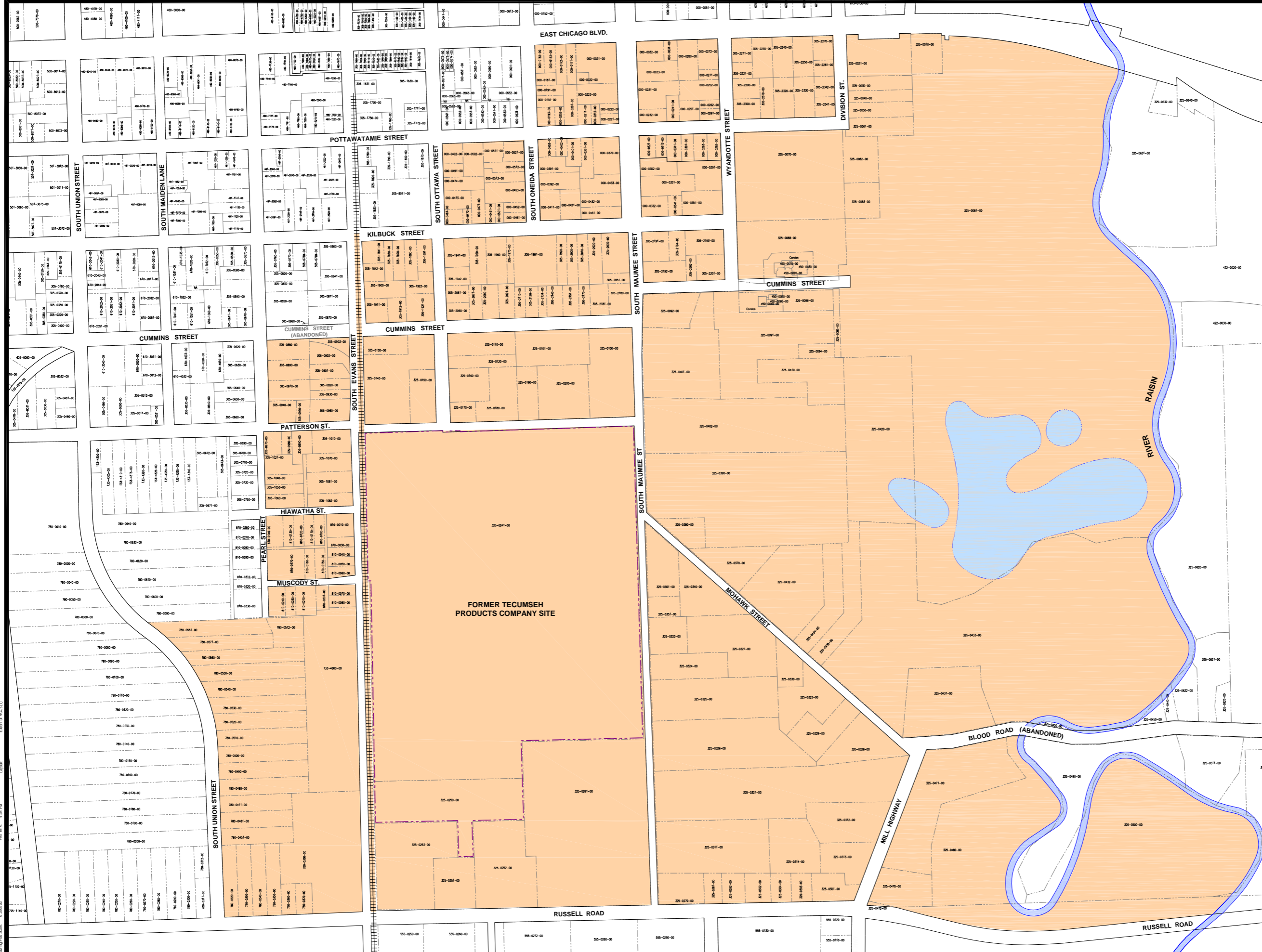
(iv) Within 10 days of City Council action modifying the restricted zone, the Applicant shall cause a notice of the City Council action to be recorded with the Lenawee County Register of Deeds, in a form approved by the City, and recorded in a manner designed to insure that it serves as record notice of the City Council action with respect to all affected premises within the restricted zone.

(v) Within 30 days of recording the notice, Applicant shall provide the City Clerk, the Lenawee County Health Department, and the MDEQ with copies of the recorded notice.

2. Effective Date and Recording. This ordinance shall be effective upon publication. This ordinance shall be filed with the Lenawee County register of deeds as an ordinance affecting multiple properties. The City shall provide notice to the Lenawee County Health Department containing a copy of this Ordinance.

This ordinance declared adopted on the _____ day of _____, 2011.

3403116_5.DOC

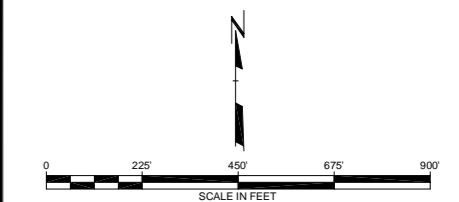


LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- 325-0241-00 PARCEL ID NUMBER
- ||||| RAILROAD TRACKS (APPROXIMATE LOCATION)
- AREA OF PROPOSED WELL ORDINANCE

NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY DWG, MARCH 2009.



5.				
4.				
3.				
2.				
1.				
NO.	BY	DATE	REVISION	APP'D.

**FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN**

AREA OF PROPOSED WELL ORDINANCE

DRAWN BY: SJA	DRAWING SCALE:	PROJECT NO: J-102751115
CHECKED BY: SEM	AS INDICATED	FILE NO: 02751.15.02.dwg
APPROVED BY: GC	DATE PRINTED:	FIGURE 1
DATE: March 2011		

J:\02751\0275115.dwg
 LUCAS, SAM
 Drawing File Size: 0.386493
 Date: 3/1/2011 4:54 PM
 Plot Date: 3/1/2011 4:54 PM
 Plot Time: 4:54 PM
 Layout: Extent of WCD:10
 RMT

Appendix D

2011 Well Survey Documentation

Technical Memorandum

To: Jason Smith

From: Stacy Metz and Graham Crockford

Subject: Summary of 2011 Private Well Survey Results

Date: September 28, 2011

Project: 02751.15.001

cc: Randy Kopke, Tecumseh Products Company
Douglas McClure, Conlin, McKenney and Philbrick, PC
Kevin Welch, City of Tecumseh

Introduction and Background

In 2010 and 2011, the City of Tecumseh worked with the Michigan Department of Environmental Quality (MDEQ) and Tecumseh Products Company (TPC) to prepare a Groundwater Use Ordinance. The City of Tecumseh passed the Groundwater Use Ordinance on June 6, 2011. This ordinance restricts groundwater use in the area near the site. Specifically, the restricted area includes the area of affected groundwater, as well as an approximately one block buffer zone around the area of affected groundwater (Figure 1). A total of 272 parcels are included in the restricted zone. Groundwater use is restricted as follows:

- The installation, development, maintenance and use of private water wells is prohibited;
- Connection to the municipal water supply is required; and
- Existing private water wells must be abandoned.

A copy of the Groundwater Use Ordinance is included as Appendix C.

In conjunction with preparation of the Groundwater Use Ordinance, TPC agreed to identify and abandon, with owner consent, private wells within the restricted zone. The 2011 Private Well Survey identified a total of 24 wells within the restricted area. Seventeen of these wells are not in use; 3 wells are used as a secondary, outdoor water supply, and 4 are used as a primary drinking water source. A list of parcel and owner information for properties with wells is included as Table 1.

This technical memorandum describes efforts undertaken to determine which of the properties within the restricted zone have private wells, and summarizes the results of this private well survey.

2009 Private Well Survey and Notices of Off-Site Migration

In 2009, RMT, Inc. (RMT¹) now TRC Environmental Corporation (TRC) conducted a private well survey to determine whether potentially affected off-site groundwater was used as potable water or for other uses. The survey area extended from Pearl Street west of the site to the River Raisin, south to Russell Road and north to Pottawatamie Street (Figure 1). The survey included a search of publicly available water well logs through the MDEQ website (Well Logic System and historical well logs database) and through a Freedom of Information Act request to the Lenawee County Health Department (LCHD). RMT also worked with the City of Tecumseh to identify properties that do not use municipal water (*i.e.*, are occupied, but are not receiving a water bill from the City of Tecumseh).

In 2009 and 2010, Notices of Off-Site Migration (NOMs) were sent to potentially affected property owners (Figure 1). Each NOM requested that property owners with private wells contact TPC to arrange for their well to be tested at no cost to them. A representative from TPC and RMT hand delivered NOMs to the owners of the properties not connected to city water in order to personally verify the presence of a private well and to request permission to collect a sample for analysis. Of the properties receiving NOMs, one non-potable (irrigation) supply well and five potable water supply wells were identified. The non-potable (irrigation) well (509 S. Maumee Street) and one of the five potable water supply wells (610 Mohawk Street) were determined to be relatively shallow (*e.g.*, less than 25 feet bgs). The four remaining potable wells were deeper (*e.g.*, greater than 50 feet).

In order to determine if VOCs were detected in groundwater from the wells identified during the 2009 Private Well Survey, TPC collected water samples from each well to be analyzed for VOCs by USEPA Method 524.2. Results indicated that two shallow water wells, located at 610 Mohawk Street and at 509 S. Maumee Street, were affected by VOCs (RMT, 2009). The two affected wells have since been decommissioned. The four remaining private wells are included in the quarterly monitoring program to verify that VOCs are not detected in groundwater from these wells.

2011 Private Well Survey – Initial Mailing

There are a total of 272 parcels within the restricted zone. Twelve of those parcels are owned by the City of Tecumseh, Tecumseh Bakery, LLC, (the current owner of the former TPC site) and Tecumseh Products Company. On March 25, 2011, RMT, on behalf of TPC, mailed a letter to the property owners of each of the remaining 260 parcels affected by the proposed ordinance. The letters included a well survey card. Owners were asked to complete the well survey card and return it in the self-addressed stamped envelope provided. Table 2 is a list of parcels and property owners which received the initial mailing. In some cases where adjacent parcels have the same property owner, a single letter and well survey card was sent to the property owner. Nine well survey cards included two parcels each (18 total parcels), and four well survey cards addressed three parcels each (12 parcels total). A total of 243

¹ On June 6, 2011 TRC acquired the Environmental Business Unit of RMT, Inc.

letters were sent. A generic copy of the March 25, 2011 letter is included as Attachment 1. By May 12, 2011, a total of 129 well survey cards for 142 parcels had been returned.

2011 Private Well Survey –Second Mailing

On May 12, 2011, an additional copy of the well survey card and a follow-up letter requesting the return of the well survey was sent to those property owners who had not responded. Table 3 is a list of 118 parcels and 114 property owners which received the second mailing. A generic copy of the May 12, 2011 letter is included as Attachment 2. By June 30, 2011, an additional 55 well survey cards had been returned for 58 parcels. An additional four of the second letters were returned “undeliverable as addressed.”

2011 Private Well Survey –Third Mailing

On June 30, 2011, an additional copy of the well survey card and a follow-up letter requesting the return of the well survey was sent to those property owners who had not responded. Table 4 is a list of 56 parcels and 55 property owners which received the third mailing. A generic copy of the June 30, 2011 letter is included as Attachment 3. By July 27, 2011, an additional 14 well survey cards had been returned for 14 parcels. One of the third letters (for 2 parcels) was returned “undeliverable as addressed.”

2011 Private Well Survey –Phone Survey

By July 27, 2011, the presence/absence of a well had been verified for 214 of the 260 parcels surveyed. TRC provided Jason Smith of TPC with a list of the remaining 46 properties for which a response had not been received, including the six parcels for which letters and well survey cards had been returned undeliverable as addressed (Table 5). Using telephone directories available on the internet, TPC and TRC searched for phone numbers by both owner name and parcel address. If a phone number was available, Jason Smith attempted to contact the property owner between July 28, 2011 and August 5, 2011. During this process, outdated and incorrect owner information was updated. The phone survey prompted 5 verbal responses and the return of 3 additional well survey cards.

2011 Private Well Survey –Fourth Mailing

During the process of finding property owner phone numbers, outdated and incorrect owner information was identified for several of the properties. In some cases, the person contacted via phone instructed another card to be sent. On August 8, 2011, an additional copy of the well survey was sent to the property owners and tenants of 27 of remaining properties. Table 6 is a list of 27 parcels which received the fourth mailing. A generic copy of the August 8, 2011 letter is included as Attachment 4. By August 29, 2011, an additional 7 well survey cards had been returned, including one with “I do not know” written on the card (Parcel 780-0560-00).

2011 Private Well Survey –Door-to-Door Survey

Between August 29 and August 31, 2011, Jason Smith of TPC conducted a door-to-door survey at the remaining 31 properties (Table 7). TPC was able to verify that wells are not present at 29 of these properties during the August door-to-door survey, and obtain permission from the owner of Parcel 780-0560-00 to conduct a site inspection. The site inspection, conducted by TRC on September 21, 2011 confirmed that no well is present on the property. On September 27, 2011 Tina Beresford of TPC conducted a follow-up door-to-door survey at the one remaining property (00-0451-00), and confirmed that no well is present on the property.

2011 Private Well Survey –Results

Well survey results are presented on Figure 1. The presence, or not, of wells at all 260 parcels surveyed has been verified through the 2009 well survey (9 parcels), a returned wells survey card (202 cards for 216 parcels), a phone conversation (5 parcels), door-to-door survey (30 parcels) and/or visual inspection (2 parcels) of the properties. A total of 24 wells were identified within the restricted area. Seventeen of these wells are not in use; 3 wells are used as a secondary, outdoor water supply, and 4 are used as a primary drinking water source. A list of parcel and owner information for properties with wells is included as Table 1. The four wells used as a primary water source, were also identified in the 2009 well survey. As described above these wells are monitored as part of the quarterly monitoring program, and VOCs have not been detected at these locations. As noted above, the groundwater use ordinance requires that these wells be abandoned. In order to facilitate passage of the ordinance, TPC has agreed to help property owners comply with the Groundwater Use Ordinance by abandoning, with owner consent, private wells identified within the restricted zone. This memo serves to document well survey efforts and facilitate that process.

Tables

Table 1
 Parcels with Private Wells Within Groundwater Use Ordinance Area
 2011 Private Well Survey
 Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code	Private Supply Well Uses ⁽¹⁾
Parcels with wells used as a primary, drinking water source and no connection to the municipal water supply							
000-0421-00	307 E KILBUCK ST	HEISLER, SHARON	307 E KILBUCK ST	TECUMSEH	MI	49286	Primary
325-0432-00	607 MOHAWK ST	LOGAN, ROBERT W	1207 MURRAY DR	TECUMSEH	MI	49286	Primary
325-0434-00	611 MOHAWK ST	BIRCHFIELD, RONALD A & SHERRIE L	615 MOHAWK ST	TECUMSEH	MI	49286	Primary
325-0435-00	615 MOHAWK ST	BIRCHFIELD, RONALD A & SHERRIE L	615 MOHAWK ST	TECUMSEH	MI	49286	Primary
Parcels with municipal water as the primary water source and a well that is used as a secondary, non-drinking water source							
000-0481-00	201 E KILBUCK ST	DAVIS, THOMAS B & SARAH L	409 E RUSSELL RD	TECUMSEH	MI	49286	Outdoor
325-0312-00	701 MILL HWY	MAYNARD MINI SERVICES, INC	101 CARRIAGE DR	TECUMSEH	MI	49286	Outdoor
325-0370-00	509 MOHAWK ST	BATYIK, FRANK L	3614 NOLAND DR	TECUMSEH	MI	49286	Outdoor & Cleaning
Parcels with municipal water as the primary water source and a well that is not in use							
000-0223-00	111 S MAUMEE ST	GALL, BYRON J & JEAN L	111 S MAUMEE ST	TECUMSEH	MI	49286	None
000-0272-00	416 E CHICAGO BLVD	KNISELY, CARLOS & BARBARA	6375 BILLMYER HWY	TECUMSEH	MI	49286	None
305-1021-00	502 S PEARL ST	FROLICH, RICHARD J & CONSTANCE	502 S PEARL ST	TECUMSEH	MI	49286	None
325-0091-00	416 E CUMMINS ST	BOOT MARTIN JR & CAROL	416 E CUMMINS ST	TECUMSEH	MI	49286	None
325-0301-00	515 E RUSSELL RD	HELMS TRUST, MICHAEL A & CAROL A	4324 BILLMEYER HWY	BRITTON	MI	49229	None
325-0313-00	803 MILL HWY	HURLEY, MATTHEW	803 MILL HWY	TECUMSEH	MI	49286	None
325-0321-00	800 S MAUMEE ST	ROBERTS INVESTMENT COMPANY LLC	P.O. BOX 400	TECUMSEH	MI	49286	None
325-0323-00	704 MOHAWK ST	BIRCHFIELD, TAYLOR & RONALD	704 MOHAWK ST	TECUMSEH	MI	49286	None
325-0380-00	426 S MAUMEE ST	NOVAK LLC	426 S MAUMEE ST	TECUMSEH	MI	49286	None
325-0401-00	414 S MAUMEE ST	BOOT, MARTIN & CAROL	807 RED MILL DR	TECUMSEH	MI	49286	None
325-0410-00	500 E CUMMINS ST	RYAN, JOHN J & ANNE E	210 W CHICAGO BLVD	TECUMSEH	MI	49286	None
780-0330-00	205 W RUSSELL RD	WOTRING, LEONARD TRUST	205 W RUSSELL RD	TECUMSEH	MI	49286	None
780-0461-00	824 S UNION ST	STEUWE, KATHLEEN M	824 S UNION ST	TECUMSEH	MI	49286	None
780-0510-00	804 S UNION ST	CREGER, DONALD	804 S UNION ST	TECUMSEH	MI	49286	None
780-0520-00	800 S UNION ST	GLENN TRUST, SALLY A	800 S UNION ST	TECUMSEH	MI	49286	None
780-0550-00	738 S UNION ST	MATTHEWS, DEBRA K	738 S UNION ST	TECUMSEH	MI	49286	None
810-0100-00	106 HIAWATHA ST	LEUTGEB, MARTIN A & MARSH, CHRISTINE	605 W POTTAWATAMIE	TECUMSEH	MI	49286	None

Notes
 1) Private supply well uses are designated as follows: "None" - wells that are not in use, "Primary" - wells used as the primary water source from the parcel including drinking water, bathing, cleaning, and outdoor uses, "Outdoor" - indicates wells used as a secondary water source for outdoor use, and "Cleaning" - indicates wells used as a secondary water source for cleaning or other household uses.

Table 2
List of Parcels and Property Owners for Initial Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
000-0021-00	320 E CHICAGO BLVD	HELLER, MARTIN	180 MAIN STREET	MADISON	NJ	7940
000-0022-00	100 S MAUMEE ST	U S POSTAL SERVICE	CENTRAL REGION, ROOM 904	TECUMSEH	MI	49286
000-0031-00	406 E CHICAGO BLVD	KNISELY, CARLOS & BARBARA	6375 BILLMYER HWY	TECUMSEH	MI	49286
000-0032-00	402 E CHICAGO BLVD	TUTTLE, CALVIN J	PO BOX 59	TECUMSEH	MI	49286
000-0033-00	106 S MAUMEE ST	SNYDER-BARKER, MICHAEL J & KARLA R	106 S MAUMEE ST	TECUMSEH	MI	49286
000-0171-00	312 E CHICAGO BLVD	YEARY TRUST, EDWARD A	4087 PENNINGTON RD	CLINTON	MI	49236
000-0172-00	306 E CHICAGO BLVD	YEARY TRUST, EDWARD A	4087 PENNINGTON RD	CLINTON	MI	49236
000-0181-00	108 S ONEIDA ST	VALLIE TRUST, JAMES J	PO BOX 2158	ANNA MARIA	FL	34216
000-0191-00	110 S ONEIDA ST	HUBBARD, GEORGE C & JENNIFER M	110 S ONEIDA ST	TECUMSEH	MI	49286
000-0192-00	112 S ONEIDA ST	SCHILLER TRUST, DAVID C & JULIE E	112 S ONEIDA ST	TECUSEH	MI	49286
000-0193-00	301 E POTTAWATAMIE ST	BROWN TRUST, CONNIE	6900 COLONIA DR	TECUSEH	MI	49286
000-0201-00	307 E POTTAWATAMIE ST	KLEINSMITH, JORDAN C & CHRISTINE J	307 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0202-00	305 E POTTAWATAMIE ST	SMITH, JASON B & MARGARET E	208 S UNION ST	TECUMSEH	MI	49286
000-0211-00	311 E POTTAWATAMIE ST	WICKENHEISER TRUST, HERMAN & ANNE E	2375 W LABOE RD	CARLETON	MI	48117
000-0212-00	313 E POTTAWATAMIE ST	POTTER, BRADLEY W & LINDSAY A	3772 TANNER MARIE DR.	ADRIAN	MI	49221
000-0221-00	115 S MAUMEE ST	BRAD LEHMAN ENTERPRISES, LLC	9296 KINGSLEY DR	ONSTED	MI	49265
000-0222-00	113 S MAUMEE ST	HAWKINS, MICHAEL G & JULIE	113 S MAUMEE ST	TECUMSEH	MI	49286
000-0223-00	111 S MAUMEE ST	GALL, BYRON J & JEAN L	111 S MAUMEE ST	TECUMSEH	MI	49286
000-0231-00	110 S MAUMEE ST	RLM LLC	110 S MAUMEE ST	TECUMSEH	MI	49286
000-0232-00	116 S MAUMEE ST	BUGBEE, LUCILLE M & BRUCE & MOLL, SHERYL & BUGBEE, BRUCE	4047 MOHAWK TRAIL	ADRIAN	MI	49221
000-0241-00	407 E POTTAWATAMIE ST	STRAND, CHAD	407 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0251-00	411 E POTTAWATAMIE ST	TURNER, GORDON L	411 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0252-00	107 S WYANDOTTE ST	KNISELY, CARLOS & BARBARA	6375 BILLMYER HWY	TECUMSEH	MI	49286
000-0261-00	415 E POTTAWATAMIE ST	HOLLIDAY, TAMMY R	415 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0262-00	111 S WYANDOTTE ST	HAYS, DAVID H & ROSALIE	111 S WYANDOTTE ST	TECUMSEH	MI	49286
000-0271-00	105 S WYANDOTTE ST	KNISELY, CARLOS & BARBARA	6375 BILLMYER HWY	TECUMSEH	MI	49286
000-0272-00	416 E CHICAGO BLVD	KNISELY, CARLOS & BARBARA	6375 BILLMYER HWY	TECUMSEH	MI	49286
000-0280-00	410 E CHICAGO BLVD	KNISELY, CARLOS & BARBARA	6375 BILLMYER HWY	TECUMSEH	MI	49286
000-0291-00	207 S WYANDOTTE ST	LAUER, CHARLES & SALLY L	207 S WYANDOTTE ST	TECUMSEH	MI	49286
000-0292-00	416 E POTTAWATAMIE ST	BLANDEN TRUST, DAVID & BARBARA	5000 E MONROE RD	TECUMSEH	MI	49286
000-0293-00	414 E POTTAWATAMIE ST	MARBLE, THOMAS & SHARON	414 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0301-00	410 E POTTAWATAMIE ST	GINIEL II, GREGORY J & CRYSTAL C	4753 HOLLOWAY RD	ADRIAN	MI	49221
000-0302-00	206 S MAUMEE ST	BILBY, RICHARD L & SHARON	206 S MAUMEE ST	TECUMSEH	MI	49286
000-0311-00	408 E POTTAWATAMIE ST	LA GORE, DARREN C & BUFFY L	408 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0312-00	406 E POTTAWATAMIE ST	LEE, ALICE J	406 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0321-00	202 S MAUMEE ST	COCHRAN, BRIAN A & DAWN M	202 S MAUMEE ST	TECUMSEH	MI	49286
000-0331-00	210 S MAUMEE ST	ROBARGE, THOMAS & ROBERT ROBARGE	210 S MAUMEE ST	TECUMSEH	MI	49286
000-0332-00	214 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
000-0341-00	409 E KILBUCK ST	GUENTHER, JERAME L	409 E KILBUCK ST	TECUMSEH	MI	49286
000-0351-00	415 E KILBUCK ST	HERRICK MEM HOSP INC	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0370-00	201 S MAUMEE ST	HARVEY, RICHARD & BONNIE	201 S MAUMEE ST	TECUMSEH	MI	49286
000-0381-00	308 E POTTAWATAMIE ST	SEAL, MICHAEL C & KATHRYN A	308 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0391-00	206 S ONEIDA ST	DUNN, MINDY	206 S ONEIDA ST	TECUMSEH	MI	49286
000-0392-00	210 S ONEIDA ST	DOAN, CHRISTOPHER M	210 S ONEIDA ST	TECUMSEH	MI	49286
000-0401-00	306 E POTTAWATAMIE ST	DEMBINSKY, SUSAN	748 RENEGADE LN	PORT ORGANGE	FL	32127

Table 2
List of Parcels and Property Owners for Initial Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
000-0402-00	304 E POTTAWATAMIE ST	JULIEN, STEPHANIE J	304 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0403-00	302 E POTTAWATAMIE ST	FIRST FEDERAL BANK OF THE MIDWEST	211 W MAIN ST.	MORENCI	MI	49256
000-0411-00	216 S ONEIDA ST	SUGIERSKI, MARTIN & KATHLEEN	13644 RIDGE RD	MILAN	MI	48160
000-0421-00	307 E KILBUCK ST	HEISLER, SHARON	307 E KILBUCK ST	TECUMSEH	MI	49286
000-0431-00	215 S MAUMEE ST	HERRELL TRUST, ORBIN	215 S MAUMEE ST	TECUMSEH	MI	49286
000-0432-00	211 S MAUMEE ST	HERRELL TRUST, ORBIN	215 S MAUMEE ST	TECUMSEH	MI	49286
000-0433-00	209 S MAUMEE ST	HERRELL TRUST, ORBIN	215 S MAUMEE ST	TECUMSEH	MI	49286
000-0451-00	215 S ONEIDA ST	LOPEZ, PEGGY D	215 S ONEIDA ST	TECUMSEH	MI	49286
000-0452-00	213 S ONEIDA ST	MONROE, MARK A & JANET M	213 S ONEIDA ST	TECUMSEH	MI	49286
000-0453-00	211 S ONEIDA ST	DENNIS, MICHAEL R & DAWN M	211 S ONEIDA ST	TECUMSEH	MI	49286
000-0461-00	209 E KILBUCK ST	TUDAY TRUST, THOMAS & TRACEY	209 E KILBUCK ST	TECUMSEH	MI	49286
000-0471-00	205 E KILBUCK ST	BAUGHEY TRUST, BEVERLY A & SAMUEL D	205 E KILBUCK ST	TECUMSEH	MI	49286
000-0472-00	203 E KILBUCK ST	WILSON, THOMAS M & KATHY S	203 E KILBUCK ST	TECUMSEH	MI	49286
000-0473-00	214 S OTTAWA ST	TROJANOWSKI, TERUKO	214 S OTTAWA ST	TECUMSEH	MI	49286
000-0474-00	210 S OTTAWA ST	MULLINS, SANDRA D	5816 S OCCIDENTAL HWY	TECUMSEH	MI	49286
000-0481-00	201 E KILBUCK ST	DAVIS, THOMAS B & SARAH L	409 E RUSSELL RD	TECUMSEH	MI	49286
000-0491-00	204 S OTTAWA ST APT 1	KERN, DAVID C	204 S OTTAWA ST APT 1	TECUMSEH	MI	49286
000-0492-00	202 E POTTAWATAMIE ST	STOTZ, JERRI L	202 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0501-00	211 E KILBUCK ST	LARSON, ROBIN	211 E KILBUCK ST	TECUMSEH	MI	49286
000-0502-00	206 E POTTAWATAMIE ST	BUNCH PROPERTIES III, LLC	205 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0511-00	212 E POTTAWATAMIE ST	BAXTER PROPERTIES LLC	PO BOX 939	DOUGLAS	MI	49406
000-0512-00	205 S ONEIDA ST	DOAN, CHRISTOPHER MICHAEL	205 S ONEIDA ST	TECUMSEH	MI	49286
000-0513-00	207 S ONEIDA ST	HARMON, ANTHONY E	9968 MATTHEWS HWY	TECUMSEH	MI	49286
000-0521-00	203 S ONEIDA ST	WARD, JAMES K & CYNTHIA L	203 S ONEIDA ST	TECUMSEH	MI	49286
133-4800-00 ⁽¹⁾	705 S EVANS ST	JBM TECUMSEH MFG RE, LLC	707 S EVANS ST	TECUMSEH	MI	49286
305-0880-00	400 S PEARL ST	HACKETT, ROBERT A	310 S PEARL ST	TECUMSEH	MI	49286
305-0890-00	408 S PEARL ST	VOLL, SHANE F & WOLFORD, TIFFANY M	408 S PEARL ST	TECUMSEH	MI	49286
305-0901-00	409 S EVANS ST	MC WILLIAMS, BENJAMIN & JANNET	600 W. CUMMIINS ST.	TECUMSEH	MI	49286
305-0902-00	401 S EVANS ST	SLUSARKSI INVESTMENT CO, LLC	119 GREENLY STREET	ADRIAN	MI	49221
305-0903-00	EVANS & CUMMINS	SOUTHERN MICHIGAN RR SOCIETY	PO BOX K	CLINTON	MI	49236
305-0910-00	412 S PEARL ST	FEDERAL HOME LOAN MORTGAGE CORP	31440 NORTHWESTERN HWY, SUITE 200	FARMINGTON	MI	48334
305-0920-00	413 S EVANS ST	MC WILLIAMS, JANNETTE C	600 W. CUMMINS ST.	TECUMSEH	MI	49286
305-0930-00	415 S EVANS ST	THOMSON JR, WILLIAM	415 S EVANS ST	TECUMSEH	MI	49286
305-0940-00	416 S PEARL ST	WENGER, JEREMY S & ANGELA M	416 S PEARL ST	TECUMSEH	MI	49286
305-0950-00	109 W PATTERSON ST	PETTY, ROGENA & CHERYL	109 W PATTERSON ST	TECUMSEH	MI	49286
305-0960-00	419 S EVANS ST	LEMIEUX, PIERRE	419 S EVANS ST	TECUMSEH	MI	49286
305-0970-00	116 W PATTERSON ST	BARNES, JEFFREY L	116 W PATTERSON ST	TECUMSEH	MI	49286
305-0980-00	114 W PATTERSON ST	MAMAYEK, PAULA B	5548 MILWAUKEE RD	TECUMSEH	MI	49286
305-0990-00	112 W PATTERSON ST	CRUZ, ALICE & NAVARRETTE, GUADALUPE	112 W PATTERSON ST	TECUMSEH	MI	49286
305-1010-00	501 S EVANS ST	RAINE, ROBERT J & PATRICIA Y	6284 VAL ROD CT	TECUMSEH	MI	49286
305-1021-00	502 S PEARL ST	FROLICH, RICHARD J & CONSTANCE	502 S PEARL ST	TECUMSEH	MI	49286
305-1040-00	506 S PEARL ST	BEECHAM, LINDA P	506 S PEARL ST	TECUMSEH	MI	49286
305-1050-00	508 S PEARL ST	CUBBERLY, NEVA C & DONNA B	256 HALL ST	MICHIGAN CENTER	MI	49254
305-1060-00	510 S PEARL ST	CZUBKO, BRIAN	3724 HEREFORD RD	SALINE	MI	48176
305-1070-00	505 S EVANS ST	BEAL, NORMAN E & SHARYL	505 S EVANS ST	TECUMSEH	MI	49286

Table 2
List of Parcels and Property Owners for Initial Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
305-1081-00	509 S EVANS ST	PURPLE TRUST, GWENDOLYN L	509 S EVANS ST	TECUMSEH	MI	49286
305-1082-00	511 S EVANS ST	POLEY, LINDA S	511 S EVANS ST	TECUMSEH	MI	49286
305-1841-00	102 E KILBUCK ST	TUBERVILLE, BILLY R & KATHY J	9253 TONNEBERGER DR	TECUMSEH	MI	49286
305-1842-00	306 S EVANS ST	ALANIZ, LAZARO & JOSEFINA	306 S EVANS ST	TECUMSEH	MI	49286
305-1860-00	106 E KILBUCK ST	HERNANDEZ, MARC C & MARY F	106 E KILBUCK ST	TECUMSEH	MI	49286
305-1870-00	108 E KILBUCK ST	HINKLEMAN, MARK & CHERI	108 E KILBUCK ST	TECUMSEH	MI	49286
305-1880-00	112 E KILBUCK ST	CONNETT, MERLIN & DOROTHY	112 E KILBUCK ST	TECUMSEH	MI	49286
305-1891-00	116 E KILBUCK ST	WYLER, CARROLL M (CAREY)	1217 WAVERLY WAY	LONGWOOD	FL	32750
305-1900-00	310 S EVANS ST	SCHMIDT, HERMAN M	310 S EVANS ST	TECUMSEH	MI	49286
305-1911-00	316 S EVANS ST	GUZMAN ESTATE, ANTHONY V	316 S EVANS ST	TECUMSEH	MI	49286
305-1912-00 ⁽²⁾	300 S OTTAWA ST BLK	SPECTRON INDUSTRIES, INC	317 S OTTAWA ST	TECUMSEH	MI	49286
305-1921-00 ⁽²⁾	317 S OTTAWA ST	SPECTRON INDUSTRIES, INC	317 S OTTAWA ST	TECUMSEH	MI	49286
305-1922-00	307 S OTTAWA ST	RODABAUGH, TIMOTHY R & DESIRA	6250 ROGERS HWY	TECUMSEH	MI	49286
305-1941-00	204 E KILBUCK ST	LARCOM, JAMES R	204 E KILBUCK ST	TECUMSEH	MI	49286
305-1942-00	306 S OTTAWA ST	FLEGEL, LEE ANN	306 S OTTAWA ST	TECUMSEH	MI	49286
305-1950-00	210 E KILBUCK ST	LANTZY, STEVEN J & MC BRIDE, VICKI	210 E KILBUCK ST	TECUMSEH	MI	49286
305-1960-00	212 E KILBUCK ST	LOUP, TECLA C	212 E KILBUCK ST	TECUMSEH	MI	49286
305-1970-00	214 E KILBUCK ST	SHORT SR, SAMUEL M & TERI J	214 E KILBUCK ST	TECUMSEH	MI	49286
305-1981-00	216 E KILBUCK ST	MURPHY, GEORGE F & CHERYL L	2501 S FLAGLER RD	WEST PALM BEACH	FL	33401
305-1990-00	304 E KILBUCK ST	DAWDY, HAZEL	7770 S MERIDIAN RD	HUDSON	MI	49247
305-2000-00	306 E KILBUCK ST	GARRETT-WILLIS VERNESE & LUJON, DEBORAH L	306 E KILBUCK ST	TECUMSEH	MI	49286
305-2010-00	308 E KILBUCK ST	DEAVERS, MICHELLE	308 E KILBUCK ST	TECUMSEH	MI	49286
305-2020-00	310 E KILBUCK ST	CAMBURN, ANNA M	310 E KILBUCK ST	TECUMSEH	MI	49286
305-2030-00	307 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
305-2051-00	311 S MAUMEE ST	DUNCAN TRUST, HAROLD L	311 S MAUMEE ST	TECUMSEH	MI	49286
305-2060-00	316 S OTTAWA ST	LANGOILIS, RALPH R & VIRGINIA L	316 S OTTAWA ST	TECUMSEH	MI	49286
305-2061-00	314 S OTTAWA ST	WILLIAMS, JOSHUA R & PHILLIPS, ALICE F	314 S OTTAWA ST	TECUMSEH	MI	49286
305-2071-00	203 E CUMMINS ST	SPREEMAN, LARRY E & ALYCIA S	203 E CUMMINS ST	TECUMSEH	MI	49286
305-2080-00	205 E CUMMINS ST	DERBY, JASON E	508 MOHAWK ST	TECUMSEH	MI	49286
305-2091-00	217 E CUMMINS ST	LEAR, JOSEPH L & CALVIN, LYNN & MARY	217 E CUMMINS ST	TECUMSEH	MI	49286
305-2110-00	219 E CUMMINS ST	HERRERA, SALOME & ANGELINA	219 E CUMMINS ST	TECUMSEH	MI	49286
305-2120-00	221 E CUMMINS ST	BAUGHEY TRUST, HOWARD J	221 E CUMMINS ST	TECUMSEH	MI	49286
305-2131-00	223 E CUMMINS ST	COUNTS, THOMAS H & SHARON A	223 E CUMMINS ST	TECUMSEH	MI	49286
305-2140-00	227 E CUMMINS ST	TORREZ, DARIO R & HAMPPEL, HEATHER A	227 E CUMMINS ST	TECUMSEH	MI	49286
305-2151-00	229 E CUMMINS ST	HIGNITE, LONNIE D	2223 SURREY COURT SE	MARIETTA	GA	30067
305-2170-00	231 E CUMMINS ST	WALKER, ROBERT L	231 E CUMMINS ST	TECUMSEH	MI	49286
305-2180-00	315 S MAUMEE ST	KEITH, DAVID A & KRISTINA D	315 S MAUMEE ST	TECUMSEH	MI	49286
305-2181-00	233 E CUMMINS ST	KENNEDY, CAROL A & LEES, COULLEEN	233 E CUMMINS ST	TECUMSEH	MI	49286
305-2191-00	302 S MAUMEE ST	GATES, TERI & FETTY, HERBERT	2690 DINIUS RD	TECUMSEH	MI	49286
305-2192-00 ⁽³⁾	308 S MAUMEE ST	MASTERPEACE MANAGEMENT LLC	308 S MAUMEE ST	TECUMSEH	MI	49286
305-2193-00	408 E KILBUCK ST	HERRICK MEMORIAL HOSPITAL	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2194-00	406 E KILBUCK ST	MAURICIO, ARTHUR & REGINA R	406 E KILBUCK ST	TECUMSEH	MI	49286
305-2201-00	311 S WYANDOTTE ST	PIERCY, JERRY & CYNTHIA	311 S WYANDOTTE ST	TECUMSEH	MI	49286
305-2202-00 ⁽³⁾	407 E CUMMINS ST	MASTERPEACE MANAGEMENT LLC	308 S MAUMEE ST	TECUMSEH	MI	49286
305-2211-00	502 E CHICAGO BLVD	CAMPBELL, SCOTT D & KAREN J	502 E CHICAGO BLVD	TECUMSEH	MI	49286

Table 2
List of Parcels and Property Owners for Initial Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
305-2221-00	106 S WYANDOTTE ST	BUSH, DANIEL B	106 S WYANDOTTE ST	TECUMSEH	MI	49286
305-2230-00	506 E CHICAGO BLVD	BUSH, DAPHNE AND LARRY B	506 E CHICAGO BLVD	TECUMSEH	MI	49286
305-2240-00 ⁽⁴⁾	510 E CHICAGO BLVD	HERRICK MEMORIAL HOSPITAL	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2250-00	512 E CHICAGO BLVD	THOMSEN, MICHAEL D & PATTERSON, PAMELA C	512 E CHICAGO BLVD	TECUMSEH	MI	49286
305-2270-00	518 E CHICAGO BLVD	FALING TRUST, DAVID H & CAROLYN	322 PARK ST	TECUMSEH	MI	49286
305-2281-00	107 S DIVISION ST	GRINNELL, CHARLES L	107 S DIVISION ST	TECUMSEH	MI	49286
305-2290-00 ⁽⁴⁾	114 S WYANDOTTE ST	HERRICK MEMORIAL HOSPITAL	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2300-00	501 E POTTAWATAMIE ST	CARNEY, ROZELLA & CARNEY, LINDSEY P	501 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2310-00	505 E POTTAWATAMIE ST	HERRICK MEMORIAL HOSPITAL INC	818 RIVERSIDE AVE	ADRIAN	MI	49221
305-2320-00 ⁽⁴⁾	509 E POTTAWATAMIE ST	HERRICK MEMORIAL HOSPITAL	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2330-00	511 E POTTAWATAMIE ST	LOGAN, WILMA & LOGAN, RUSSELL	511 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2341-00	515 E POTTAWATAMIE ST	SHIELS, WILLIAM & CAROLE	515 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2342-00	109 S DIVISION ST	DNW PROPERTY INVESTMENTS,LLC	601 SHELDON ROAD	GRAND HAVEN	MI	49417
325-0010-00	702 E CHICAGO BLVD	RODABAUGH, TIMOTHY R & DESIRA	6250 ROGERS HWY	TECUMSEH	MI	49286
325-0021-00	100 S DIVISION ST	DLN, LLC	5546 MILWAUKEE RD	TECUMSEH	MI	49286
325-0030-00	104 S DIVISION ST	OSBURN TRUST, JAY T & JUDITH A	7344 DONAHUE ST.	PORT CHARLOTTE	FL	33981
325-0040-00	106 S DIVISION ST	SOWERS, MATHEW J & AMY R	106 S DIVISION ST	TECUMSEH	MI	49286
325-0050-00	108 S DIVISION ST	STUDER, SCOTT & COLLEEN	108 S DIVISION ST	TECUMSEH	MI	49286
325-0061-00	110 S DIVISION ST	DARM, RICHARD L & BETTSY M	110 S DIVISION ST	TECUMSEH	MI	49286
325-0070-00 ⁽⁵⁾	500 E POTTAWATAMIE ST	HERRICK MEMORIAL HOSPITAL INC	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
325-0082-00 ⁽⁶⁾	602 E POTTAWATAMIE ST	HERRICK MEDICAL CENTER	818 RIVERSIDE AVE	ADRIAN	MI	49221
325-0083-00 ⁽⁶⁾	604 E POTTAWATAMIE ST	HERRICK MEDICAL CENTER	818 RIVERSIDE AVE	ADRIAN	MI	49221
325-0085-00 ⁽⁷⁾	500 E CUMMINS ST	RYAN, JOHN J & ANNE E	210 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0086-00	DAVE WILLIAMS DR	HERRICK MEM HOSPITAL	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
325-0088-00 ⁽⁵⁾	500 E POTTAWATAMIE ST BLK	HERRICK MEMORIAL HOSPITAL INC	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
325-0091-00	416 E CUMMINS ST	BOOT MARTIN JR & CAROL	416 E CUMMINS ST	TECUMSEH	MI	49286
325-0092-00	400 E CUMMINS ST BLK	WALLICH, MARTIN F & PHYLLIS	2800 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0094-00	504 E CUMMINS ST	JF CALM LLC	962 FAIRWAY COVE	TECUMSEH	MI	49286
325-0100-00	415 S MAUMEE ST	D & P COMMUNICATIONS, INC	4200 TEAL RD	PETERSBURG	MI	49270
325-0101-00	220 E CUMMINS ST	HARRISON PROPERTIES, LLC	513 N OCCIDENTAL RD	TECUMSEH	MI	49286
325-0110-00	210 E CUMMINS ST	MONEY, LARRY L	210 E CUMMINS ST	TECUMSEH	MI	49286
325-0120-00	408 S OTTAWA ST	RICHARDS, FLOELLA	408 S OTTAWA ST	TECUMSEH	MI	49286
325-0160-00	410 S OTTAWA ST	SWANGER, JESSICA A	410 S OTTAWA ST	TECUMSEH	MI	49286
325-0170-00	201 E PATTERSON ST	CONSUMERS ENERGY CO	ONE ENERGY PLAZA	JACKSON	MI	49201
325-0180-00	209 E PATTERSON ST	IRELAN, DENNIS C & KAREN	BOX 66	TECUMSEH	MI	49286
325-0190-00	205 E PATTERSON ST BLK	CONSUMERS ENERGY CO	ONE ENERGY PLAZA	JACKSON	MI	49201
325-0200-00	223 E PATTERSON ST	M & S LAND HOLDINGS, LLC	8514 PENNINGTON RD	TECUMSEH	MI	49286
325-0251-00	105 E RUSSELL RD	AQUACULTURE RESEARCH CENTER	105 E RUSSELL RD	TECUMSEH	MI	49286
325-0252-00	209 E RUSSELL RD	UNITED BANK & TRUST	205 E CHICAGO BLVD	TECUMSEH	MI	49286
325-0261-00	805 S MAUMEE ST	MARTIN TRUST, DONALD J	145 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0270-00	816 S MAUMEE ST	CRANE TRUST, FAY E & WANDA M	931 VINE ST.	ADRIAN	MI	49221
325-0281-00	409 E RUSSELL RD	DAVIS, THOMAS B	409 RUSSELL RD E	TECUMSEH	MI	49286
325-0282-00	411 E RUSSELL RD	ABBCO INC	PO BOX 506	TECUMSEH	MI	49286
325-0301-00	515 E RUSSELL RD	HELMS TRUST, MICHAEL A & CAROL A	4324 BILLMEYER HWY	BRITTON	MI	49229
325-0302-00 ⁽⁸⁾	415 E RUSSELL RD	LOVELAND TRUST, KEVIN F & DEBORAH A	5038 S. BLISSFIELD HWY.	BLISSFIELD	MI	49228

Table 2
List of Parcels and Property Owners for Initial Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
325-0303-00	503 E RUSSELL RD	HARMON, STEPHANIE G	415 ADRIAN ST	TECUMSEH	MI	49286
325-0304-00 ⁽⁸⁾	415 E RUSSELL RD	LOVELAND TRUST, KEVIN F & DEBORAH A	5038 S. BLISSFIELD HWY	BLISSFIELD	MI	49228
325-0311-00	810 S MAUMEE ST	CHAPMAN, TWILA V	810 S MAUMEE ST	TECUMSEH	MI	49286
325-0312-00	701 MILL HWY	MAYNARD MINI SERVICES, INC	101 CARRIAGE DR	TECUMSEH	MI	49286
325-0313-00	803 MILL HWY	HURLEY, MATTHEW	803 MILL HWY	TECUMSEH	MI	49286
325-0314-00	MILL HWY	RICHARDSON'S EXCAVATING INC	P O BOX 308	TECUMSEH	MI	49286
325-0321-00	800 S MAUMEE ST	ROBERTS INVESTMENT COMPANY LLC	P.O. BOX 400	TECUMSEH	MI	49286
325-0322-00	507 S MAUMEE ST	SPEER, HAROLD E	210 W SHAWNEE ST #1	TECUMSEH	MI	49286
325-0323-00	704 MOHAWK ST	BIRCHFIELD, TAYLOR & RONALD	704 MOHAWK ST	TECUMSEH	MI	49286
325-0324-00 ⁽⁹⁾	606 S MAUMEE ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074
325-0325-00	610 S MAUMEE ST	CALLISON LEASING CORPORATION	610 S MAUMEE ST	TECUMSEH	MI	49286
325-0326-00	700 S MAUMEE ST	TECUMSEH PUBLIC SCHOOLS	212 N OTTAWA ST	TECUMSEH	MI	49286
325-0327-00 ⁽⁹⁾	MOHAWK ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074
325-0328-00 ⁽¹⁰⁾	800 MOHAWK ST	TECUMSEH SELF STORAGE LLC	500 W KILBUCK ST	TECUMSEH	MI	49286
325-0329-00 ⁽¹⁰⁾	800 MOHAWK ST	TECUMSEH SELF STORAGE LLC	500 W KILBUCK ST	TECUMSEH	MI	49286
325-0330-00	610 MOHAWK ST	LASK, SCOTT R	610 MOHAWK ST	TECUMSEH	MI	49286
325-0340-00	508 MOHAWK ST	DERBY, KEVIN G & JASON E	508 MOHAWK ST	TECUMSEH	MI	49286
325-0351-00	505 S MAUMEE ST	MAUMEE TRUST, 505 S	210 W SHAWNEE ST #1	TECUMSEH	MI	49286
325-0361-00	502 MOHAWK ST	KLANK, TODD E & SPEER, HAROLD E	502 MOHAWK ST	TECUMSEH	MI	49286
325-0370-00	509 MOHAWK ST	BATYIK, FRANK L	3614 NOLAND DR	TECUMSEH	MI	49286
325-0380-00	426 S MAUMEE ST	NOVAK LLC	426 S MAUMEE ST	TECUMSEH	MI	49286
325-0390-00	424 S MAUMEE ST	SLUSARSKI INVESTMENT COMPANY LLC	119 GREENLY STREET	ADRIAN	MI	49221
325-0401-00	414 S MAUMEE ST	BOOT, MARTIN & CAROL	807 RED MILL DR	TECUMSEH	MI	49286
325-0410-00 ⁽⁷⁾	500 E CUMMINS ST	RYAN, JOHN J & ANNE E	210 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0431-00	707 BLOOD RD	HULL, EDWARD & DONALD	509 E CHICAGO BLVD	TECUMSEH	MI	49286
325-0432-00	607 MOHAWK ST	LOGAN, ROBERT W	1207 MURRAY DR	TECUMSEH	MI	49286
325-0433-00 ⁽¹¹⁾	600 MOHAWK ST BLK	BIRCHFIELD, RONALD A & SHERRIE	615 MOHAWK ST	TECUMSEH	MI	49286
325-0434-00 ⁽¹¹⁾	611 MOHAWK ST	BIRCHFIELD, RONALD A & SHERRIE L	615 MOHAWK ST	TECUMSEH	MI	49286
325-0435-00 ⁽¹¹⁾	615 MOHAWK ST	BIRCHFIELD, RONALD A & SHERRIE L	615 MOHAWK ST	TECUMSEH	MI	49286
325-0470-00	601 E RUSSELL RD	SWIFT REVOC TRUST, LOIS	PO BOX 524	TECUMSEH	MI	49286
325-0471-00	740 MILL HWY	MICH DEPT OF TRANSPORTATION	P O BOX 30050	LANSING	MI	48909
325-0480-00 ⁽¹²⁾	700 E RUSSELL RD	SERVICE TRUST, SUSAN N	1518 WOODVIEW DR	ADRIAN	MI	49221
325-0500-00 ⁽¹²⁾	900 BLOOD RD	SERVICE TRUST, SUSAN N	1518 WOODVIEW DR	ADRIAN	MI	49221
450-0010-00	501 E CUMMINS ST	HERRICK MEMORIAL HOSPITAL	818 RIVERSIDE AVE	ADRIAN	MI	49221
450-0020-00	501 E CUMMINS ST	AD-EM INC	501 CUMMINS ST E	TECUMSEH	MI	49286
450-0030-00	501 E CUMMINS ST	DOMAN, DANIEL R	501 CUMMINS ST E	TECUMSEH	MI	49286
450-0040-00 ⁽¹³⁾	502 E CUMMINS ST	HERRICK MEMORIAL DEV CORP	501 E POTTAWATAMIE ST	TECUMSEH	MI	49286
450-0050-00 ⁽¹³⁾	502 E CUMMINS ST	HERRICK MEMORIAL DEV CORP	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
450-0060-00 ⁽¹³⁾	502 E CUMMINS ST	HERRICK MEMORIAL DEV CORP	500 E POTTAWATAMIE ST	TECUMSEH	MI	49286
780-0320-00	207 W RUSSELL RD	MILLER, STANLEY & FLORENCE & HAND, LUCINDA	207 W RUSSELL RD	TECUMSEH	MI	49286
780-0330-00	205 W RUSSELL RD	WOTRING, LEONARD TRUST	205 W RUSSELL RD	TECUMSEH	MI	49286
780-0340-00	203 W RUSSELL RD	MARKS, DAMIEN S	203 W RUSSELL RD	TECUMSEH	MI	49286
780-0350-00	201 W RUSSELL RD	KOTHE, AMBER L	6655 SCHNEIDER RD	MANCHESTER	MI	48158
780-0360-00	107 W RUSSELL RD	DOWNER, MARK D & SRBLJAN, NICOLE S	107 W RUSSELL RD	TECUMSEH	MI	49286
780-0370-00	105 W RUSSELL RD	GODWIN TRUST, RICHARD B & JOANN	4039 HAVEN DR	ADRIAN	MI	49221

Table 2
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2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
780-0380-00 ⁽¹⁾	805 S EVANS ST	JBM TECUMSEH MFG RE, LLC	707 S EVANS ST	TECUMSEH	MI	49286
780-0451-00	828 S UNION ST	MURPHY, HERMON	828 S UNION ST	TECUMSEH	MI	49286
780-0461-00	824 S UNION ST	STEUWE, KATHLEEN M	824 S UNION ST	TECUMSEH	MI	49286
780-0471-00	820 S UNION ST	BROSAMER, RICHARD	820 S UNION ST	TECUMSEH	MI	49286
780-0480-00	816 S UNION ST	SCHMIDT, RAYMOND & LINDA	816 S UNION ST	TECUMSEH	MI	49286
780-0490-00	812 S UNION ST	WILSON, RUSSELL E	812 S UNION ST	TECUMSEH	MI	49286
780-0500-00	808 S UNION ST	SEBRING, L PERL & KATHY A	808 S UNION ST	TECUMSEH	MI	49286
780-0510-00	804 S UNION ST	CREGER, DONALD	804 S UNION ST	TECUMSEH	MI	49286
780-0520-00	800 S UNION ST	GLENN TRUST, SALLY A	800 S UNION ST	TECUMSEH	MI	49286
780-0530-00	746 S UNION ST	KUTCHI, KARL S & KRIESEL, DENISE L	746 S UNION ST	TECUMSEH	MI	49286
780-0540-00	742 S UNION ST	HUNTER, JOANNA E	742 S UNION ST	TECUMSEH	MI	49286
780-0550-00	738 S UNION ST	MATTHEWS, DEBRA K	738 S UNION ST	TECUMSEH	MI	49286
780-0560-00	734 S UNION ST	STAMPER, ANGELA T	6100 S OCCIDENTAL HWY	TECUMSEH	MI	49286
780-0571-00	730 S UNION ST	FANNIE MAE	14221 DALLAS PARKWAY, SUITE 1000	DALLAS	TX	75254
780-0572-00	707 S EVANS ST	RED MILL SALES & LEASING	PO BOX 701099	PLYMOUTH	MI	48170
780-0581-00	726 S UNION ST	POLEY, RONNIE & CAROL	726 S UNION ST	TECUMSEH	MI	49286
810-0010-00	601 S EVANS ST	PRONG REVOCABLE TRUST, KEITH	601 S EVANS ST	TECUMSEH	MI	49286
810-0030-00	605 S EVANS ST	SWEET, KENDALL L	1205 E BEECHER	ADRIAN	MI	49221
810-0040-00	607 S EVANS ST	HABECKER, DAVID A	741 S UNION ST	TECUMSEH	MI	49286
810-0050-00	609 S EVANS ST	RYAN, TIMOTHY	6146 VAL ROD CT	TECUMSEH	MI	49286
810-0060-00	613 S EVANS ST	HOUSEHOLD FINANCE CORP	636 GRAND REGENCY BLVD.	BRANDON	FL	33510
810-0070-00	701 S EVANS ST	BURRIDGE, CRAIG S	701 S EVANS ST	TECUMSEH	MI	49286
810-0080-00 ⁽¹⁾	703 S EVANS ST	JBM TECUMSEH MFG RE, LLC	707 S EVANS ST	TECUMSEH	MI	49286
810-0100-00	106 HIAWATHA ST	LEUTGEB, MARTIN A & MARSH, CHRISTINE	605 W POTTAWATAMIE	TECUMSEH	MI	49286
810-0110-00	108.5 HIAWATHA ST	TORRES, CLAUDIO & CLARA	108.5 HIAWATHA ST	TECUMSEH	MI	49286
810-0120-00	108 HIAWATHA ST	LARSEN, JAY D & MELISSA A	108 HIAWATHA ST	TECUMSEH	MI	49286
810-0130-00	110 HIAWATHA ST	FLETT, ROBERT A	1401 SHEPHERD RD.	TECUMSEH	MI	49286
810-0140-00	112 HIAWATHA ST	SMITH, SCOTT C	316 W CUMMINS ST	TECUMSEH	MI	49286
810-0150-00	105 MUSCODY ST	WARREN, WILLIAM S & BEVERLY M	105 MUSCODY ST	TECUMSEH	MI	49286
810-0160-00	107 MUSCODY ST	SANCHEZ, JOSE	107 MUSCODY ST	TECUMSEH	MI	49286
810-0170-00	111 MUSCODY ST	TAYLOR, MICHAEL N	111 MUSCODY ST	TECUMSEH	MI	49286
810-0201-00	104 MUSCODY ST	WAYNICK, DOVELYN	4741 HOLLOWAY RD	ADRIAN	MI	49221
810-0210-00	106 MUSCODY ST	ARANDA FAMILY TRUST	106 MUSCODY ST	TECUMSEH	MI	49286
810-0230-00	110 MUSCODY ST	ESTALA, MICHAEL A & HEIDI J	110 MUSCODY ST	TECUMSEH	MI	49286
810-0240-00	114 MUSCODY ST	GOMEZ, PAUL & WILLIAMS, ESTHER C	114 MUSCODY ST	TECUMSEH	MI	49286

Notes:

- 1) Property owner received a single well survey card for adjacent parcels: 133-4800-00, 780-0380-00, and 810-0810-00.
- 2) Property owner received a single well survey card for adjacent parcels: 305-1912-00 and 305-1921-00.
- 3) Property owner received a single well survey card for adjacent parcels: 305-2192-00 and 305-2202-00.
- 4) Property owner received a single well survey card for adjacent parcels: 305-2240-00, 305-2290-00 and 305-2320-00.
- 5) Property owner received a single well survey card for adjacent parcels: 325-0070-00 and 325-0088-00.
- 6) Property owner received a single well survey card for adjacent parcels: 325-0082-00 and 325-0083-00.
- 7) Property owner received a single well survey card for adjacent parcels: 325-0085-00 and 325-0410-00.
- 8) Property owner received a single well survey card for adjacent parcels: 325-0302-00 and 325-0304-00.
- 9) Property owner received a single well survey card for adjacent parcels: 325-0324-00 and 325-0327-00.
- 10) Property owner received a single well survey card for adjacent parcels: 325-0328-00 and 325-0329-00.
- 11) Property owner received a single well survey card for adjacent parcels: 325-0433-00, 325-0434-00, and 325-0435-00.
- 12) Property owner received a single well survey card for adjacent parcels: 325-0480-00 and 325-0500-00.
- 13) Property owner received a single well survey card for adjacent parcels: 450-0040-00, 450-0050-00, and 450-0060-00.

Table 3
List of Parcels and Property Owners for Second Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
000-0021-00	320 E CHICAGO BLVD	HELLER, MARTIN	180 MAIN STREET	MADISON	NJ	7940
000-0033-00	106 S MAUMEE ST	SNYDER-BARKER, MICHAEL J & KARLA R	106 S MAUMEE ST	TECUMSEH	MI	49286
000-0171-00	312 E CHICAGO BLVD	YEARY TRUST, EDWARD A	4087 PENNINGTON RD	CLINTON	MI	49236
000-0172-00	306 E CHICAGO BLVD	YEARY TRUST, EDWARD A	4087 PENNINGTON RD	CLINTON	MI	49236
000-0193-00	301 E POTTAWATAMIE ST	BROWN TRUST, CONNIE	6900 COLONIA DR	TECUSEH	MI	49286
000-0201-00	307 E POTTAWATAMIE ST	KLEINSMITH, JORDAN C & CHRISTINE J	307 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0202-00	305 E POTTAWATAMIE ST	SMITH, JASON B & MARGARET E	208 S UNION ST	TECUMSEH	MI	49286
000-0212-00	313 E POTTAWATAMIE ST	POTTER, BRADLEY W & LINDSAY A	3772 TANNER MARIE DR.	ADRIAN	MI	49221
000-0221-00	115 S MAUMEE ST	BRAD LEHMAN ENTERPRISES, LLC	9296 KINGSLEY DR	ONSTED	MI	49265
000-0231-00	110 S MAUMEE ST	RLM LLC	110 S MAUMEE ST	TECUMSEH	MI	49286
000-0241-00	407 E POTTAWATAMIE ST	STRAND, CHAD	407 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0261-00	415 E POTTAWATAMIE ST	HOLLIDAY, TAMMY R	415 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0293-00	414 E POTTAWATAMIE ST	MARBLE, THOMAS & SHARON	414 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0311-00	408 E POTTAWATAMIE ST	LA GORE, DARREN C & BUFFY L	408 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0321-00	202 S MAUMEE ST	COCHRAN, BRIAN A & DAWN M	202 S MAUMEE ST	TECUMSEH	MI	49286
000-0331-00	210 S MAUMEE ST	ROBARGE, THOMAS & ROBERT ROBARGE	210 S MAUMEE ST	TECUMSEH	MI	49286
000-0332-00	214 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
000-0341-00	409 E KILBUCK ST	GUENTHER, JERAME L	409 E KILBUCK ST	TECUMSEH	MI	49286
000-0381-00	308 E POTTAWATAMIE ST	SEAL, MICHAEL C & KATHRYN A	308 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0391-00	206 S ONEIDA ST	DUNN, MINDY	206 S ONEIDA ST	TECUMSEH	MI	49286
000-0392-00	210 S ONEIDA ST	DOAN, CHRISTOPHER M	210 S ONEIDA ST	TECUMSEH	MI	49286
000-0411-00	216 S ONEIDA ST	SUGIERSKI, MARTIN & KATHLEEN	13644 RIDGE RD	MILAN	MI	48160
000-0431-00	215 S MAUMEE ST	HERRELL TRUST, ORBIN	215 S MAUMEE ST	TECUMSEH	MI	49286
000-0432-00	211 S MAUMEE ST	HERRELL TRUST, ORBIN	215 S MAUMEE ST	TECUMSEH	MI	49286
000-0433-00	209 S MAUMEE ST	HERRELL TRUST, ORBIN	215 S MAUMEE ST	TECUMSEH	MI	49286
000-0451-00	215 S ONEIDA ST	LOPEZ, PEGGY D	215 S ONEIDA ST	TECUMSEH	MI	49286
000-0453-00	211 S ONEIDA ST	DENNIS, MICHAEL R & DAWN M	211 S ONEIDA ST	TECUMSEH	MI	49286
000-0473-00	214 S OTTAWA ST	TROJANOWSKI, TERUKO	214 S OTTAWA ST	TECUMSEH	MI	49286
000-0481-00	201 E KILBUCK ST	DAVIS, THOMAS B & SARAH L	409 E RUSSELL RD	TECUMSEH	MI	49286
000-0501-00	211 E KILBUCK ST	LARSON, ROBIN	211 E KILBUCK ST	TECUMSEH	MI	49286
000-0502-00	206 E POTTAWATAMIE ST	BUNCH PROPERTIES III, LLC	205 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0512-00	205 S ONEIDA ST	DOAN, CHRISTOPHER MICHAEL	205 S ONEIDA ST	TECUMSEH	MI	49286
000-0513-00	207 S ONEIDA ST	HARMON, ANTHONY E	9968 MATTHEWS HWY	TECUMSEH	MI	49286
000-0521-00	203 S ONEIDA ST	WARD, JAMES K & CYNTHIA L	203 S ONEIDA ST	TECUMSEH	MI	49286
133-4800-00 ⁽¹⁾	705 S EVANS ST	JBM TECUMSEH MFG RE, LLC	707 S EVANS ST	TECUMSEH	MI	49286
305-0880-00	400 S PEARL ST	HACKETT, ROBERT A	310 S PEARL ST	TECUMSEH	MI	49286
305-0890-00	408 S PEARL ST	VOLL, SHANE F & WOLFORD, TIFFANY M	408 S PEARL ST	TECUMSEH	MI	49286
305-0902-00	401 S EVANS ST	SLUSARSKI INVESTMENT CO, LLC	119 GREENLY STREET	ADRIAN	MI	49221
305-0903-00	EVANS & CUMMINS	SOUTHERN MICHIGAN RR SOCIETY	PO BOX K	CLINTON	MI	49236
305-0910-00	412 S PEARL ST	FEDERAL HOME LOAN MORTGAGE CORP	31440 NORTHWESTERN HWY, SUITE 200	FARMINGTON	MI	48334
305-0940-00	416 S PEARL ST	WENGER, JEREMY S & ANGELA M	416 S PEARL ST	TECUMSEH	MI	49286
305-0970-00	116 W PATTERSON ST	BARNES, JEFFREY L	116 W PATTERSON ST	TECUMSEH	MI	49286
305-0980-00	114 W PATTERSON ST	MAMAYEK, PAULA B	5548 MILWAUKEE RD	TECUMSEH	MI	49286
305-0990-00	112 W PATTERSON ST	CRUZ, ALICE & NAVARRETTE, GUADALUPE	112 W PATTERSON ST	TECUMSEH	MI	49286
305-1010-00	501 S EVANS ST	RAINE, ROBERT J & PATRICIA Y	6284 VAL ROD CT	TECUMSEH	MI	49286

Table 3
List of Parcels and Property Owners for Second Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
305-1021-00	502 S PEARL ST	FROLICH, RICHARD J & CONSTANCE	502 S PEARL ST	TECUMSEH	MI	49286
305-1040-00	506 S PEARL ST	BEECHAM, LINDA P	506 S PEARL ST	TECUMSEH	MI	49286
305-1070-00	505 S EVANS ST	BEAL, NORMAN E & SHARYL	505 S EVANS ST	TECUMSEH	MI	49286
305-1081-00	509 S EVANS ST	PURPLE TRUST, GWENDOLYN L	509 S EVANS ST	TECUMSEH	MI	49286
305-1841-00	102 E KILBUCK ST	TUBERVILLE, BILLY R & KATHY J	9253 TONNEBERGER DR	TECUMSEH	MI	49286
305-1891-00	116 E KILBUCK ST	WYLER, CARROLL M (CAREY)	1217 WAVERLY WAY	LONGWOOD	FL	32750
305-1981-00	216 E KILBUCK ST	MURPHY, GEORGE F & CHERYL L	2501 S FLAGLER RD	WEST PALM BEACH	FL	33401
305-2000-00	306 E KILBUCK ST	GARRETT-WILLIS VERNESE & LUJON, DEBORAH L	306 E KILBUCK ST	TECUMSEH	MI	49286
305-2010-00	308 E KILBUCK ST	DEAVERS, MICHELLE	308 E KILBUCK ST	TECUMSEH	MI	49286
305-2030-00	307 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
305-2051-00	311 S MAUMEE ST	DUNCAN TRUST, HAROLD L	311 S MAUMEE ST	TECUMSEH	MI	49286
305-2060-00	316 S OTTAWA ST	LANGOILIS, RALPH R & VIRGINIA L	316 S OTTAWA ST	TECUMSEH	MI	49286
305-2071-00	203 E CUMMINS ST	SPREEMAN, LARRY E & ALCYIA S	203 E CUMMINS ST	TECUMSEH	MI	49286
305-2091-00	217 E CUMMINS ST	LEAR, JOSEPH L & CALVIN, LYNN & MARY	217 E CUMMINS ST	TECUMSEH	MI	49286
305-2120-00	221 E CUMMINS ST	BAUGHEY TRUST, HOWARD J	221 E CUMMINS ST	TECUMSEH	MI	49286
305-2140-00	227 E CUMMINS ST	TORREZ, DARIO R & HAMPEL, HEATHER A	227 E CUMMINS ST	TECUMSEH	MI	49286
305-2170-00	231 E CUMMINS ST	WALKER, ROBERT L	231 E CUMMINS ST	TECUMSEH	MI	49286
305-2180-00	315 S MAUMEE ST	KEITH, DAVID A & KRISTINA D	315 S MAUMEE ST	TECUMSEH	MI	49286
305-2181-00	233 E CUMMINS ST	KENNEDY, CAROL A & LEES, COULLEEN	233 E CUMMINS ST	TECUMSEH	MI	49286
305-2191-00	302 S MAUMEE ST	GATES, TERI & FETTY, HERBERT	2690 DINIUS RD	TECUMSEH	MI	49286
305-2194-00	406 E KILBUCK ST	MAURICIO, ARTHUR & REGINA R	406 E KILBUCK ST	TECUMSEH	MI	49286
305-2201-00	311 S WYANDOTTE ST	PIERCY, JERRY & CYNTHIA	311 S WYANDOTTE ST	TECUMSEH	MI	49286
305-2211-00	502 E CHICAGO BLVD	CAMPBELL, SCOTT D & KAREN J	502 E CHICAGO BLVD	TECUMSEH	MI	49286
305-2230-00	506 E CHICAGO BLVD	BUSH, DAPHNE AND LARRY B	506 E CHICAGO BLVD	TECUMSEH	MI	49286
305-2341-00	515 E POTTAWATAMIE ST	SHIELS, WILLIAM & CAROLE	515 E POTTAWATAMIE ST	TECUMSEH	MI	49286
305-2342-00	109 S DIVISION ST	DNW PROPERTY INVESTMENTS,LLC	601 SHELDON ROAD	GRAND HAVEN	MI	49417
325-0021-00	100 S DIVISION ST	DLN, LLC	5546 MILWAUKEE RD	TECUMSEH	MI	49286
325-0040-00	106 S DIVISION ST	SOWERS, MATHEW J & AMY R	106 S DIVISION ST	TECUMSEH	MI	49286
325-0085-00 ⁽²⁾	500 E CUMMINS ST	RYAN, JOHN J & ANNE E	210 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0091-00	416 E CUMMINS ST	BOOT MARTIN JR & CAROL	416 E CUMMINS ST	TECUMSEH	MI	49286
325-0092-00	400 E CUMMINS ST BLK	WALLICH, MARTIN F & PHYLLIS	2800 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0110-00	210 E CUMMINS ST	MONEY, LARRY L	210 E CUMMINS ST	TECUMSEH	MI	49286
325-0120-00	408 S OTTAWA ST	RICHARDS, FLOELLA	408 S OTTAWA ST	TECUMSEH	MI	49286
325-0160-00	410 S OTTAWA ST	SWANGER, JESSICA A	410 S OTTAWA ST	TECUMSEH	MI	49286
325-0170-00	201 E PATTERSON ST	CONSUMERS ENERGY CO	ONE ENERGY PLAZA	JACKSON	MI	49201
325-0190-00	205 E PATTERSON ST BLK	CONSUMERS ENERGY CO	ONE ENERGY PLAZA	JACKSON	MI	49201
325-0200-00	223 E PATTERSON ST	M & S LAND HOLDINGS, LLC	8514 PENNINGTON RD	TECUMSEH	MI	49286
325-0261-00	805 S MAUMEE ST	MARTIN TRUST, DONALD J	145 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0281-00	409 E RUSSELL RD	DAVIS, THOMAS B	409 RUSSELL RD E	TECUMSEH	MI	49286
325-0282-00	411 E RUSSELL RD	ABBCO INC	PO BOX 506	TECUMSEH	MI	49286
325-0311-00	810 S MAUMEE ST	CHAPMAN, TWILA V	810 S MAUMEE ST	TECUMSEH	MI	49286
325-0312-00	701 MILL HWY	MAYNARD MINI SERVICES, INC	101 CARRIAGE DR	TECUMSEH	MI	49286
325-0314-00	MILL HWY	RICHARDSON'S EXCAVATING INC	P O BOX 308	TECUMSEH	MI	49286
325-0321-00	800 S MAUMEE ST	ROBERTS INVESTMENT COMPANY LLC	P.O. BOX 400	TECUMSEH	MI	49286
325-0324-00 ⁽³⁾	606 S MAUMEE ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074

Table 3
List of Parcels and Property Owners for Second Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
325-0326-00	700 S MAUMEE ST	TECUMSEH PUBLIC SCHOOLS	212 N OTTAWA ST	TECUMSEH	MI	49286
325-0327-00 ⁽³⁾	MOHAWK ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074
325-0330-00	610 MOHAWK ST	LASK, SCOTT R	610 MOHAWK ST	TECUMSEH	MI	49286
325-0370-00	509 MOHAWK ST	BATYIK, FRANK L	3614 NOLAND DR	TECUMSEH	MI	49286
325-0380-00	426 S MAUMEE ST	NOVAK LLC	426 S MAUMEE ST	TECUMSEH	MI	49286
325-0390-00	424 S MAUMEE ST	SLUSARSKI INVESTMENT COMPANY LLC	119 GREENLY STREET	ADRIAN	MI	49221
325-0401-00	414 S MAUMEE ST	BOOT, MARTIN & CAROL	807 RED MILL DR	TECUMSEH	MI	49286
325-0410-00 ⁽²⁾	500 E CUMMINS ST	RYAN, JOHN J & ANNE E	210 W CHICAGO BLVD	TECUMSEH	MI	49286
325-0431-00	707 BLOOD RD	HULL, EDWARD & DONALD	509 E CHICAGO BLVD	TECUMSEH	MI	49286
780-0340-00	203 W RUSSELL RD	MARKS, DAMIEN S	203 W RUSSELL RD	TECUMSEH	MI	49286
780-0360-00	107 W RUSSELL RD	DOWNER, MARK D & SRBLJAN, NICOLE S	107 W RUSSELL RD	TECUMSEH	MI	49286
780-0380-00 ⁽¹⁾	805 S EVANS ST	JBM TECUMSEH MFG RE, LLC	707 S EVANS ST	TECUMSEH	MI	49286
780-0490-00	812 S UNION ST	WILSON, RUSSELL E	812 S UNION ST	TECUMSEH	MI	49286
780-0500-00	808 S UNION ST	SEBRING, L PERL & KATHY A	808 S UNION ST	TECUMSEH	MI	49286
780-0530-00	746 S UNION ST	KUTCHI, KARL S & KRIESEL, DENISE L	746 S UNION ST	TECUMSEH	MI	49286
780-0540-00	742 S UNION ST	HUNTER, JOANNA E	742 S UNION ST	TECUMSEH	MI	49286
780-0560-00	734 S UNION ST	STAMPER, ANGELA T	6100 S OCCIDENTAL HWY	TECUMSEH	MI	49286
780-0571-00	730 S UNION ST	FANNIE MAE	14221 DALLAS PARKWAY, SUITE 1000	DALLAS	TX	75254
780-0581-00	726 S UNION ST	POLEY, RONNIE & CAROL	726 S UNION ST	TECUMSEH	MI	49286
810-0060-00	613 S EVANS ST	HOUSEHOLD FINANCE CORP	636 GRAND REGENCY BLVD.	BRANDON	FL	33510
810-0070-00	701 S EVANS ST	BURRIDGE, CRAIG S	701 S EVANS ST	TECUMSEH	MI	49286
810-0080-00 ⁽¹⁾	703 S EVANS ST	JBM TECUMSEH MFG RE, LLC	707 S EVANS ST	TECUMSEH	MI	49286
810-0120-00	108 HIAWATHA ST	LARSEN, JAY D & MELISSA A	108 HIAWATHA ST	TECUMSEH	MI	49286
810-0130-00	110 HIAWATHA ST	FLETT, ROBERT A	1401 SHEPHERD RD.	TECUMSEH	MI	49286
810-0150-00	105 MUSCODY ST	WARREN, WILLIAM S & BEVERLY M	105 MUSCODY ST	TECUMSEH	MI	49286
810-0201-00	104 MUSCODY ST	WAYNICK, DOVELYN	4741 HOLLOWAY RD	ADRIAN	MI	49221
810-0210-00	106 MUSCODY ST	ARANDA FAMILY TRUST	106 MUSCODY ST	TECUMSEH	MI	49286
810-0240-00	114 MUSCODY ST	GOMEZ, PAUL & WILLIAMS, ESTHER C	114 MUSCODY ST	TECUMSEH	MI	49286

Notes:

- 1) Property owner received a single well survey card for adjacent parcels: 133-4800-00, 780-0380-00, and 810-0810-00.
- 2) Property owner received a single well survey card for adjacent parcels: 325-0085-00 and 325-0410-00.
- 3) Property owner received a single well survey card for adjacent parcels: 325-0324-00 and 325-0327-00.

Table 4
List of Parcels and Property Owners for Third Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
000-0021-00	320 E CHICAGO BLVD	HELLER, MARTIN	180 MAIN STREET	MADISON	NJ	7940
000-0033-00	106 S MAUMEE ST	SNYDER-BARKER, MICHAEL J & KARLA R	106 S MAUMEE ST	TECUMSEH	MI	49286
000-0193-00	301 E POTTAWATAMIE ST	BROWN TRUST, CONNIE	6900 COLONIA DR	TECUSEH	MI	49286
000-0212-00	313 E POTTAWATAMIE ST	POTTER, BRADLEY W & LINDSAY A	3772 TANNER MARIE DR.	ADRIAN	MI	49221
000-0231-00	110 S MAUMEE ST	RLM LLC	110 S MAUMEE ST	TECUMSEH	MI	49286
000-0241-00	407 E POTTAWATAMIE ST	STRAND, CHAD	407 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0293-00	414 E POTTAWATAMIE ST	MARBLE, THOMAS & SHARON	414 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0311-00	408 E POTTAWATAMIE ST	LA GORE, DARREN C & BUFFY L	408 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0332-00	214 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
000-0341-00	409 E KILBUCK ST	GUENTHER, JERAME L	409 E KILBUCK ST	TECUMSEH	MI	49286
000-0381-00	308 E POTTAWATAMIE ST	SEAL, MICHAEL C & KATHRYN A	308 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0392-00	210 S ONEIDA ST	DOAN, CHRISTOPHER M	210 S ONEIDA ST	TECUMSEH	MI	49286
000-0453-00	211 S ONEIDA ST	DENNIS, MICHAEL R & DAWN M	211 S ONEIDA ST	TECUMSEH	MI	49286
000-0501-00	211 E KILBUCK ST	LARSON, ROBIN	211 E KILBUCK ST	TECUMSEH	MI	49286
000-0512-00	205 S ONEIDA ST	DOAN, CHRISTOPHER MICHAEL	205 S ONEIDA ST	TECUMSEH	MI	49286
000-0513-00	207 S ONEIDA ST	HARMON, ANTHONY E	9968 MATTHEWS HWY	TECUMSEH	MI	49286
000-0521-00	203 S ONEIDA ST	WARD, JAMES K & CYNTHIA L	203 S ONEIDA ST	TECUMSEH	MI	49286
305-0880-00	400 S PEARL ST	HACKETT, ROBERT A	310 S PEARL ST	TECUMSEH	MI	49286
305-0890-00	408 S PEARL ST	VOLL, SHANE F & WOLFORD, TIFFANY M	408 S PEARL ST	TECUMSEH	MI	49286
305-0902-00	401 S EVANS ST	SLUSARSKI INVESTMENT CO, LLC	119 GREENLY STREET	ADRIAN	MI	49221
305-0910-00	412 S PEARL ST	FEDERAL HOME LOAN MORTGAGE CORP	31440 NORTHWESTERN HWY, SUITE 200	FARMINGTON	MI	48334
305-1021-00	502 S PEARL ST	FROLICH, RICHARD J & CONSTANCE	502 S PEARL ST	TECUMSEH	MI	49286
305-1841-00	102 E KILBUCK ST	TUBERVILLE, BILLY R & KATHY J	9253 TONNEBERGER DR	TECUMSEH	MI	49286
305-1981-00	216 E KILBUCK ST	MURPHY, GEORGE F & CHERYL L	2501 S FLAGLER RD	WEST PALM BEACH	FL	33401
305-2000-00	306 E KILBUCK ST	GARRETT-WILLIS VERNESE & LUJON, DEBORAH L	306 E KILBUCK ST	TECUMSEH	MI	49286
305-2010-00	308 E KILBUCK ST	DEAVERS, MICHELLE	308 E KILBUCK ST	TECUMSEH	MI	49286
305-2030-00	307 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
305-2060-00	316 S OTTAWA ST	LANGOILIS, RALPH R & VIRGINIA L	316 S OTTAWA ST	TECUMSEH	MI	49286
305-2091-00	217 E CUMMINS ST	LEAR, JOSEPH L & CALVIN, LYNN & MARY	217 E CUMMINS ST	TECUMSEH	MI	49286
305-2140-00	227 E CUMMINS ST	TORREZ, DARIO R & HAMPEL, HEATHER A	227 E CUMMINS ST	TECUMSEH	MI	49286
305-2170-00	231 E CUMMINS ST	WALKER, ROBERT L	231 E CUMMINS ST	TECUMSEH	MI	49286
305-2191-00	302 S MAUMEE ST	GATES, TERI & FETTY, HERBERT	2690 DINIUS RD	TECUMSEH	MI	49286
305-2211-00	502 E CHICAGO BLVD	CAMPBELL, SCOTT D & KAREN J	502 E CHICAGO BLVD	TECUMSEH	MI	49286
305-2342-00	109 S DIVISION ST	DNW PROPERTY INVESTMENTS,LLC	601 SHELDON ROAD	GRAND HAVEN	MI	49417
325-0120-00	408 S OTTAWA ST	RICHARDS, FLOELLA	408 S OTTAWA ST	TECUMSEH	MI	49286
325-0170-00	201 E PATTERSON ST	CONSUMERS ENERGY CO	ONE ENERGY PLAZA	JACKSON	MI	49201
325-0190-00	205 E PATTERSON ST BLK	CONSUMERS ENERGY CO	ONE ENERGY PLAZA	JACKSON	MI	49201
325-0200-00	223 E PATTERSON ST	M & S LAND HOLDINGS, LLC	8514 PENNINGTON RD	TECUMSEH	MI	49286
325-0282-00	411 E RUSSELL RD	ABBCO INC	PO BOX 506	TECUMSEH	MI	49286
325-0314-00	MILL HWY	RICHARDSON'S EXCAVATING INC	P O BOX 308	TECUMSEH	MI	49286
325-0324-00 ⁽¹⁾	606 S MAUMEE ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074
325-0327-00 ⁽¹⁾	MOHAWK ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074
325-0390-00	424 S MAUMEE ST	SLUSARSKI INVESTMENT COMPANY LLC	119 GREENLY STREET	ADRIAN	MI	49221

Table 4
List of Parcels and Property Owners for Third Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
780-0340-00	203 W RUSSELL RD	MARKS, DAMIEN S	203 W RUSSELL RD	TECUMSEH	MI	49286
780-0360-00	107 W RUSSELL RD	DOWNER, MARK D & SRBLJAN, NICOLE S	107 W RUSSELL RD	TECUMSEH	MI	49286
780-0500-00	808 S UNION ST	SEBRING, L PERL & KATHY A	808 S UNION ST	TECUMSEH	MI	49286
780-0540-00	742 S UNION ST	HUNTER, JOANNA E	742 S UNION ST	TECUMSEH	MI	49286
780-0560-00	734 S UNION ST	STAMPER, ANGELA T	6100 S OCCIDENTAL HWY	TECUMSEH	MI	49286
780-0571-00	730 S UNION ST	FANNIE MAE	14221 DALLAS PARKWAY, SUITE 1000	DALLAS	TX	75254
810-0060-00	613 S EVANS ST	HOUSEHOLD FINANCE CORP	636 GRAND REGENCY BLVD.	BRANDON	FL	33510
810-0070-00	701 S EVANS ST	BURRIDGE, CRAIG S	701 S EVANS ST	TECUMSEH	MI	49286
810-0120-00	108 HIAWATHA ST	LARSEN, JAY D & MELISSA A	108 HIAWATHA ST	TECUMSEH	MI	49286
810-0150-00	105 MUSCODY ST	WARREN, WILLIAM S & BEVERLY M	105 MUSCODY ST	TECUMSEH	MI	49286
810-0201-00	104 MUSCODY ST	WAYNICK, DOVELYN	4741 HOLLOWAY RD	ADRIAN	MI	49221
810-0210-00	106 MUSCODY ST	ARANDA FAMILY TRUST	106 MUSCODY ST	TECUMSEH	MI	49286
810-0240-00	114 MUSCODY ST	GOMEZ, PAUL & WILLIAMS, ESTHER C	114 MUSCODY ST	TECUMSEH	MI	49286

Notes:

- 1) Property owner received a single well survey card for adjacent parcels: 325-0324-00 and 325-0327-00.

Table 5
List of Parcels and Property Owners for Phone Survey
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
000-0033-00	106 S MAUMEE ST	SNYDER-BARKER, MICHAEL J & KARLA R	106 S MAUMEE ST	TECUMSEH	MI	49286
000-0193-00	301 E POTTAWATAMIE ST	BROWN TRUST, CONNIE	6900 COLONIA DR	TECUMSEH	MI	49286
000-0212-00	313 E POTTAWATAMIE ST	POTTER, BRADLEY W & LINDSAY A	3772 TANNER MARIE DR.	ADRIAN	MI	49221
000-0231-00	110 S MAUMEE ST	RLM LLC	110 S MAUMEE ST	TECUMSEH	MI	49286
000-0241-00	407 E POTTAWATAMIE ST	STRAND, CHAD	407 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0332-00	214 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
000-0341-00	409 E KILBUCK ST	GUENTHER, JERAME L	409 E KILBUCK ST	TECUMSEH	MI	49286
000-0381-00	308 E POTTAWATAMIE ST	SEAL, MICHAEL C & KATHRYN A	308 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0501-00	211 E KILBUCK ST	LARSON, ROBIN	211 E KILBUCK ST	TECUMSEH	MI	49286
000-0513-00	207 S ONEIDA ST	HARMON, ANTHONY E	9968 MATTHEWS HWY	TECUMSEH	MI	49286
000-0521-00	203 S ONEIDA ST	WARD, JAMES K & CYNTHIA L	203 S ONEIDA ST	TECUMSEH	MI	49286
305-0880-00	400 S PEARL ST	HACKETT, ROBERT A	310 S PEARL ST	TECUMSEH	MI	49286
305-0890-00	408 S PEARL ST	VOLL, SHANE F & WOLFORD, TIFFANY M	408 S PEARL ST	TECUMSEH	MI	49286
305-0902-00	401 S EVANS ST	SLUSARSKI INVESTMENT CO, LLC	119 GREENLY STREET	ADRIAN	MI	49221
305-0910-00	412 S PEARL ST	FEDERAL HOME LOAN MORTGAGE CORP	31440 NORTHWESTERN HWY, SUITE 200	FARMINGTON	MI	48334
305-0970-00 ⁽¹⁾	116 W PATTERSON ST	BARNES, JEFFREY L	116 W PATTERSON ST	TECUMSEH	MI	49286
305-1040-00 ⁽¹⁾	506 S PEARL ST	BEECHAM, LINDA P	506 S PEARL ST	TECUMSEH	MI	49286
305-1841-00	102 E KILBUCK ST	TUBERVILLE, BILLY R & KATHY J	9253 TONNEBERGER DR	TECUMSEH	MI	49286
305-1981-00	216 E KILBUCK ST	MURPHY, GEORGE F & CHERYL L	2501 S FLAGLER RD	WEST PALM BEACH	FL	33401
305-2010-00	308 E KILBUCK ST	DEAVERS, MICHELLE	308 E KILBUCK ST	TECUMSEH	MI	49286
305-2030-00	307 S MAUMEE ST	LOWER LIGHT MISSION DWIGHT SHOEMAKER	20469 DEERFIELD RD.	DEERFIELD	MI	49238
305-2060-00	316 S OTTAWA ST	LANGOILIS, RALPH R & VIRGINIA L	316 S OTTAWA ST	TECUMSEH	MI	49286
305-2091-00	217 E CUMMINS ST	LEAR, JOSEPH L & CALVIN, LYNN & MARY	217 E CUMMINS ST	TECUMSEH	MI	49286
305-2140-00	227 E CUMMINS ST	TORREZ, DARIO R & HAMPPEL, HEATHER A	227 E CUMMINS ST	TECUMSEH	MI	49286
305-2170-00	231 E CUMMINS ST	WALKER, ROBERT L	231 E CUMMINS ST	TECUMSEH	MI	49286
305-2211-00	502 E CHICAGO BLVD	CAMPBELL, SCOTT D & KAREN J	502 E CHICAGO BLVD	TECUMSEH	MI	49286
305-2342-00	109 S DIVISION ST	DNW PROPERTY INVESTMENTS,LLC	601 SHELDON ROAD	GRAND HAVEN	MI	49417
325-0120-00	408 S OTTAWA ST	RICHARDS, FLOELLA	408 S OTTAWA ST	TECUMSEH	MI	49286
325-0200-00	223 E PATTERSON ST	M & S LAND HOLDINGS, LLC	8514 PENNINGTON RD	TECUMSEH	MI	49286
325-0282-00	411 E RUSSELL RD	ABBCO INC	PO BOX 506	TECUMSEH	MI	49286
325-0314-00	MILL HWY	RICHARDSON'S EXCAVATING INC	P O BOX 308	TECUMSEH	MI	49286
325-0324-00 ^(1,2)	606 S MAUMEE ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074
325-0327-00 ^(1,2)	MOHAWK ST	G T E TELEPHONE OPER	19845 NORTH US 31 POB 407	WESTFIELD	IN	46074
325-0390-00	424 S MAUMEE ST	SLUSARSKI INVESTMENT COMPANY LLC	119 GREENLY STREET	ADRIAN	MI	49221
780-0340-00	203 W RUSSELL RD	MARKS, DAMIEN S	203 W RUSSELL RD	TECUMSEH	MI	49286
780-0360-00	107 W RUSSELL RD	DOWNER, MARK D & SRBLJAN, NICOLE S	107 W RUSSELL RD	TECUMSEH	MI	49286
780-0490-00 ⁽¹⁾	812 S UNION ST	WILSON, RUSSELL E	812 S UNION ST	TECUMSEH	MI	49286
780-0540-00	742 S UNION ST	HUNTER, JOANNA E	742 S UNION ST	TECUMSEH	MI	49286
780-0560-00	734 S UNION ST	STAMPER, ANGELA T	6100 S OCCIDENTAL HWY	TECUMSEH	MI	49286
780-0571-00	730 S UNION ST	FANNIE MAE	14221 DALLAS PARKWAY, SUITE 1000	DALLAS	TX	75254

Table 5
 List of Parcels and Property Owners for Phone Survey
 2011 Private Well Survey
 Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
810-0060-00	613 S EVANS ST	HOUSEHOLD FINANCE CORP	636 GRAND REGENCY BLVD.	BRANDON	FL	33510
810-0070-00	701 S EVANS ST	BURRIDGE, CRAIG S	701 S EVANS ST	TECUMSEH	MI	49286
810-0130-00 ⁽¹⁾	110 HIAWATHA ST	FLETT, ROBERT A	1401 SHEPHERD RD.	TECUMSEH	MI	49286
810-0201-00	104 MUSCODY ST	WAYNICK, DOVELYN	4741 HOLLOWAY RD	ADRIAN	MI	49221
810-0210-00	106 MUSCODY ST	ARANDA FAMILY TRUST	106 MUSCODY ST	TECUMSEH	MI	49286
810-0240-00	114 MUSCODY ST	GOMEZ, PAUL & WILLIAMS, ESTHER C	114 MUSCODY ST	TECUMSEH	MI	49286

Notes:

- 1) Well survey cards previously returned "Undeliverable as Addressed."
- 2) Property owner received a single well survey card for adjacent parcels: 325-0324-00 and 325-0327-00.

Table 6
List of Parcels and Property Owners for Fourth Mailing
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
000-0033-00	106 S MAUMEE ST	SNYDER-BARKER, MICHAEL J & KARLA R	106 S MAUMEE ST	TECUMSEH	MI	49286
000-0033-00	106 S MAUMEE ST	SNYDER-BARKER, MICHAEL J & KARLA R	1 MAUMEE CT	ADRIAN	MI	49221-2503
000-0193-00	301 E POTTAWATAMIE ST	BROWN TRUST, CONNIE	6900 COLONIAL DR	TECUMSEH	MI	49286
000-0212-00	313 E POTTAWATAMIE ST	POTTER, BRADLEY W & LINDSAY A	3772 TANNER MARIE DR.	ADRIAN	MI	49221
000-0212-00	313 E POTTAWATAMIE ST	WATTERS, BETH	313 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0241-00	407 E POTTAWATAMIE ST	STRAND, CHAD	407 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0332-00	214 S MAUMEE ST	LOWER LIGHT MISSION	2200 GLOFF RD	PETERSBURG	MI	49270
000-0341-00	409 E KILBUCK ST	GUENTHER, JERAME L	409 E KILBUCK ST	TECUMSEH	MI	49286
000-0501-00	211 E KILBUCK ST	LARSON, ROBIN	211 E KILBUCK ST	TECUMSEH	MI	49286
000-0521-00	203 S ONEIDA ST	WELLS FARGO HOME MORTGAGE	3476 STATEVIEW BLVD	FORT MILL	SC	29715
305-0902-00	401 S EVANS ST	SLUSARSKI INVESTMENT CO, LLC	119 GREENLY STREET	ADRIAN	MI	49221
305-0910-00	412 S PEARL ST	CRAIG FULTON	412 S PEARL ST	TECUMSEH	MI	49286
305-0970-00	116 W PATTERSON ST	BENSCHOTER, GARY L AND LINDA L	116 W PATTERSON ST	TECUMSEH	MI	49286
305-1040-00	506 S PEARL ST	UNITED MORTGAGE COMPANY	506 S PEARL ST	TECUMSEH	MI	49286
305-1040-00	506 S PEARL ST	FANNIE MAE	14221 DALLAS PARKWAY, SUITE 1000	DALLAS	TX	75254
305-1841-00	102 E KILBUCK ST	MOORE HOMES LLC	7835 BUNTON RD	YPSILANTI	MI	48197
305-2030-00	307 S MAUMEE ST	LOWER LIGHT MISSION	2200 GLOFF RD	PETERSBURG	MI	49270
305-2060-00	316 S OTTAWA ST	LANGOILIS, RALPH R & VIRGINIA L	316 S OTTAWA ST	TECUMSEH	MI	49286
305-2170-00	231 E CUMMINS ST	WALKER, ROBERT L	231 E CUMMINS ST	TECUMSEH	MI	49286
305-2170-00	231 E CUMMINS ST	LEWIS, MELVIN AND JANE	898 E CHICAGO BLVD	TECUMSEH	MI	49286
305-2211-00	502 E CHICAGO BLVD	CAMPBELL, SCOTT D & KAREN J	502 E CHICAGO BLVD	TECUMSEH	MI	49286
325-0282-00	411 E RUSSELL RD	ABBOTT, MILTON	805 SOUTH MAUMEE	TECUMSEH	MI	49286
325-0314-00	MILL HWY	RICHARDSON'S EXCAVATING INC	P O BOX 308	TECUMSEH	MI	49286
325-0390-00	424 S MAUMEE ST	SLUSARSKI INVESTMENT COMPANY LLC	119 GREENLY STREET	ADRIAN	MI	49221
780-0340-00	203 W RUSSELL RD	MARKS, DAMIEN S	203 W RUSSELL RD	TECUMSEH	MI	49286
780-0360-00	107 W RUSSELL RD	SEC OF HOUSING & URBAN DEV	50 LOUIS NW	GRAND RAPIDS	MI	49503
780-0490-00	812 S UNION ST	HOME LOAN SERVICING LP	7105 CORPORATE DR, # PTX-B-32	PLANO	TX	75024-4100
780-0560-00	734 S UNION ST	STAMPER, ANGELA T	6100 S OCCIDENTAL HWY	TECUMSEH	MI	49286
810-0060-00	613 S EVANS ST	GIFFORD, ELIZABETH	6486 WISNER	ADRIAN	MI	49221
810-0070-00	701 S EVANS ST	BURRIDGE, CRAIG S	701 S EVANS ST	TECUMSEH	MI	49286
810-0130-00	110 HIAWATHA ST	FLETT, ROBERT A	87 LAKESHORE POINTE DR, APT 40	HOWELL	MI	48843-6502

Notes:

Red text indicates updated owner information.

Table 7
List of Parcels and Property Owners for Door-to-Door Survey
2011 Private Well Survey
Tecumseh, Michigan

Parcel #	Property Address	Owner Name	Owner Address	Owner City	ST	Zip Code
000-0193-00	301 E POTTAWATAMIE ST	BROWN TRUST, CONNIE	6900 COLONIA DR	TECUSEH	MI	49286
000-0212-00	313 E POTTAWATAMIE ST	POTTER, BRADLEY W & LINDSAY A	3772 TANNER MARIE DR.	ADRIAN	MI	49221
000-0231-00	110 S MAUMEE ST	RLM LLC	110 S MAUMEE ST	TECUMSEH	MI	49286
000-0341-00	409 E KILBUCK ST	GUENTHER, JERAME L	409 E KILBUCK ST	TECUMSEH	MI	49286
000-0381-00	308 E POTTAWATAMIE ST	SEAL, MICHAEL C & KATHRYN A	308 E POTTAWATAMIE ST	TECUMSEH	MI	49286
000-0501-00	211 E KILBUCK ST	LARSON, ROBIN	211 E KILBUCK ST	TECUMSEH	MI	49286
000-0521-00	203 S ONEIDA ST	WARD, JAMES K & CYNTHIA L	203 S ONEIDA ST	TECUMSEH	MI	49286
305-0890-00	408 S PEARL ST	VOLL, SHANE F & WOLFORD, TIFFANY M	408 S PEARL ST	TECUMSEH	MI	49286
305-0902-00	401 S EVANS ST	SLUSARSKI INVESTMENT CO, LLC	119 GREENLY STREET	ADRIAN	MI	49221
305-1040-00	506 S PEARL ST	BEECHAM, LINDA P	506 S PEARL ST	TECUMSEH	MI	49286
305-1841-00	102 E KILBUCK ST	TUBERVILLE, BILLY R & KATHY J	9253 TONNEBERGER DR	TECUMSEH	MI	49286
305-1981-00	216 E KILBUCK ST	MURPHY, GEORGE F & CHERYL L	2501 S FLAGLER RD	WEST PALM BEACH	FL	33401
305-2010-00	308 E KILBUCK ST	DEAVERS, MICHELLE	308 E KILBUCK ST	TECUMSEH	MI	49286
305-2060-00	316 S OTTAWA ST	LANGOILIS, RALPH R & VIRGINIA L	316 S OTTAWA ST	TECUMSEH	MI	49286
305-2091-00	217 E CUMMINS ST	LEAR, JOSEPH L & CALVIN, LYNN & MARY	217 E CUMMINS ST	TECUMSEH	MI	49286
305-2140-00	227 E CUMMINS ST	TORREZ, DARIO R & HAMPPEL, HEATHER A	227 E CUMMINS ST	TECUMSEH	MI	49286
305-2170-00	231 E CUMMINS ST	WALKER, ROBERT L	231 E CUMMINS ST	TECUMSEH	MI	49286
305-2211-00	502 E CHICAGO BLVD	CAMPBELL, SCOTT D & KAREN J	502 E CHICAGO BLVD	TECUMSEH	MI	49286
325-0200-00	223 E PATTERSON ST	M & S LAND HOLDINGS, LLC	8514 PENNINGTON RD	TECUMSEH	MI	49286
325-0390-00	424 S MAUMEE ST	SLUSARSKI INVESTMENT COMPANY LLC	119 GREENLY STREET	ADRIAN	MI	49221
780-0340-00	203 W RUSSELL RD	MARKS, DAMIEN S	203 W RUSSELL RD	TECUMSEH	MI	49286
780-0360-00	107 W RUSSELL RD	DOWNER, MARK D & SRBLJAN, NICOLE S	107 W RUSSELL RD	TECUMSEH	MI	49286
780-0490-00	812 S UNION ST	WILSON, RUSSELL E	812 S UNION ST	TECUMSEH	MI	49286
780-0560-00	734 S UNION ST	STAMPER, ANGELA T	6100 S OCCIDENTAL HWY	TECUMSEH	MI	49286
780-0571-00	730 S UNION ST	FANNIE MAE - Chris Silberhorn lives in house	14221 DALLAS PARKWAY, SUITE 1000	DALLAS	TX	75254
810-0060-00	613 S EVANS ST	HOUSEHOLD FINANCE CORP	636 GRAND REGENCY BLVD.	BRANDON	FL	33510
810-0060-00	613 S EVANS ST	HOUSEHOLD FINANCE CORP	636 GRAND REGENCY BLVD.	BRANDON	FL	33510
810-0070-00	701 S EVANS ST	BURRIDGE, CRAIG S	701 S EVANS ST	TECUMSEH	MI	49286
810-0070-00	701 S EVANS ST	BURRIDGE, CRAIG S	701 S EVANS ST	TECUMSEH	MI	49286
810-0130-00	110 HIAWATHA ST	FLETT, ROBERT A	1401 SHEPHERD RD.	TECUMSEH	MI	49286
810-0130-00 ⁽¹⁾	110 HIAWATHA ST	FLETT, ROBERT A	1401 SHEPHERD RD.	TECUMSEH	MI	49286
810-0201-00	104 MUSCODY ST	WAYNICK, DOVELYN (Randy Taylor new owner)	4741 HOLLOWAY RD	ADRIAN	MI	49221
810-0201-00	104 MUSCODY ST	WAYNICK, DOVELYN	4741 HOLLOWAY RD	ADRIAN	MI	49221
810-0210-00	106 MUSCODY ST	ARANDA FAMILY TRUST	106 MUSCODY ST	TECUMSEH	MI	49286
810-0210-00	106 MUSCODY ST	ARANDA FAMILY TRUST	106 MUSCODY ST	TECUMSEH	MI	49286
810-0240-00	114 MUSCODY ST	GOMEZ, PAUL & WILLIAMS, ESTHER C	114 MUSCODY ST	TECUMSEH	MI	49286
810-0240-00	114 MUSCODY ST	GOMEZ, PAUL & WILLIAMS, ESTHER C	114 MUSCODY ST	TECUMSEH	MI	49286

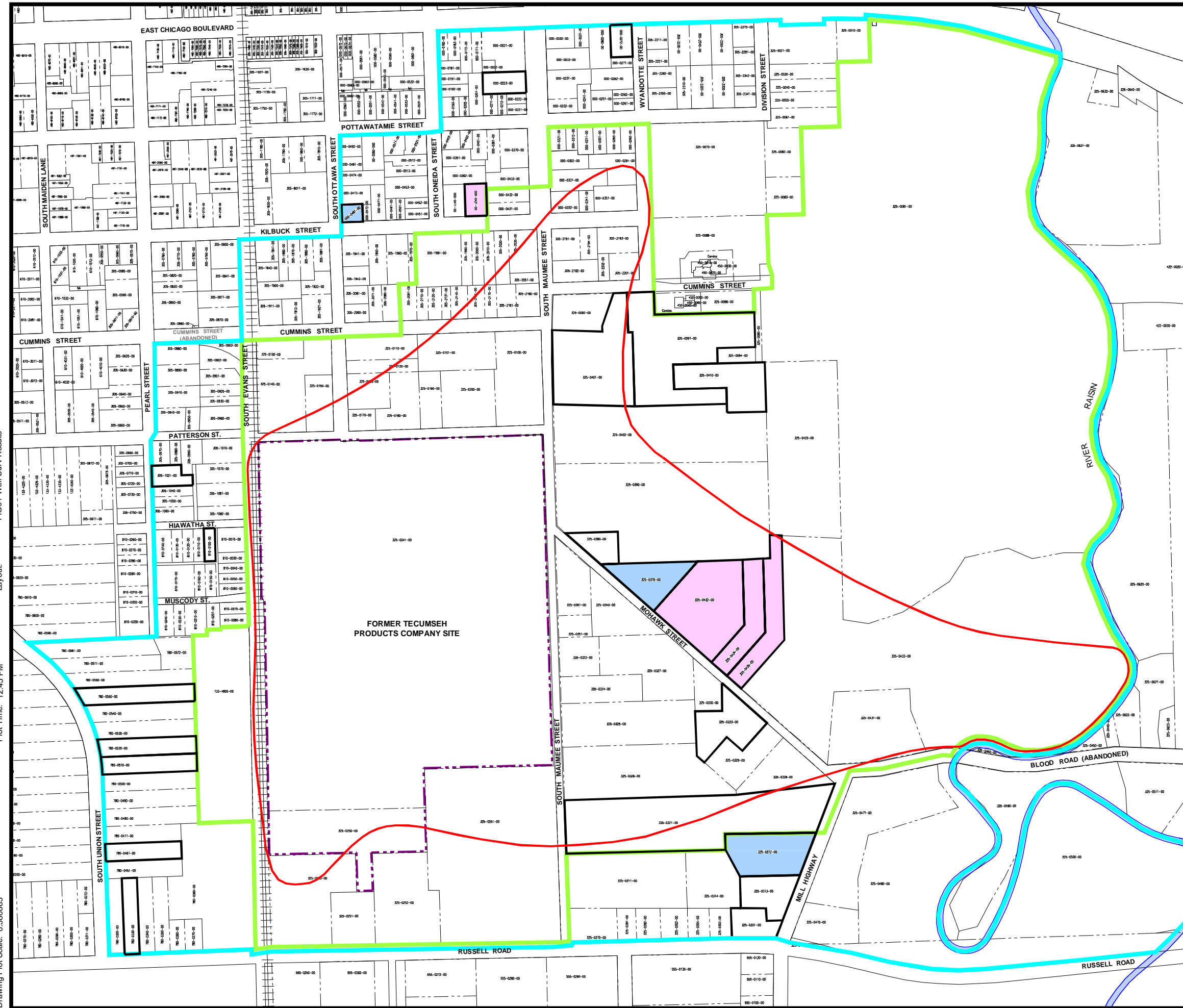
Figures

PLOT DATA
 Drawing Name: J:\027511\02751.15.05.dwg
 Operator Name: STEHLE, DIANAH
 Drawing Plot Scale: 0.386863

Dwg Size: 0.55 Mb
 Plot Date: September 28, 2011
 Plot Time: 12:45 PM

Attached Xrefs:
 Attached Images:
 Layout:

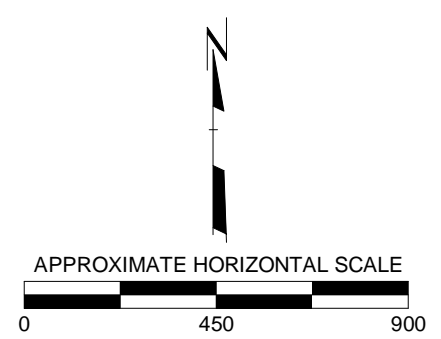
bm100110 (No Wetlands)
 FIG01 Well Surv Results



- ### LEGEND
- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
 - PARCEL BOUNDARY
 - 305-0241-00 PARCEL ID NUMBER
 - RAILROAD TRACKS (APPROXIMATE LOCATION)
 - BOUNDARY OF AREA THAT RECEIVED NOTICES OF OFF-SITE MIGRATION
 - BOUNDARY OF AREA AFFECTED BY GROUNDWATER USE ORDINANCE
 - EXTENT OF VOCs ABOVE MDEQ PART 201 DRINKING WATER CRITERIA

- ### SURVEY RESULTS
- PROPERTIES WITH PRIVATE WELLS NOT IN USE
 - PROPERTIES WITH PRIVATE WELLS AS A PRIMARY WATER SUPPLY
 - PROPERTIES WITH PRIVATE WELLS AS A SECONDARY WATER SUPPLY

- ### NOTES
- BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009 .



PROJECT:		FORMER TECUMSEH PRODUCTS SITE TECUMSEH, MICHIGAN	
TITLE:		WELL SURVEY RESULTS	
DRAWN BY:	SJL/DGS	SCALE:	AS INDICATED
CHECKED BY:	SEM	PROJ. NO.:	187156.0000.0000
APPROVED BY:	GC	FILE NO.:	02751.15.05.dwg
DATE:	SEPTEMBER 2011	DATE PRINTED:	FIGURE 1
		3754 Rancho Drive Ann Arbor, MI 48108-2237 Phone: 734.971.7080 Fax: 734.971.9022	

Attachment 1



March 24, 2011

«OwnerName»

«OwnerAddress»

«OwnerCity», «ST» «ZipCode»

RE: Proposed Groundwater Ordinance Affecting Property at «Address1» («Parcel1»)

Dear Property Owner:

The purpose of this letter is to advise property owners of a proposed City Ordinance amendment restricting the use of groundwater in the vicinity of the former Tecumseh Products Company manufacturing facility at 100 East Patterson Street in Tecumseh, Michigan.

As many residents are aware, Tecumseh Products Company ceased manufacturing operations at the facility in 2008, and sold the property in December of 2009 to Tecumseh Bakery, LLC. As part of that transaction, an environmental investigation was conducted at the facility which detected volatile organic compounds (VOCs) in soil and subsurface groundwater at the property. In March of 2010, Tecumseh Products Company entered into an Administrative Order on Consent (Consent Order) with the United States Environmental Protection Agency (EPA), under which Tecumseh Products Company is investigating the VOCs in soil and groundwater, including any off-site groundwater impacts, in order to propose and implement any final corrective measures necessary to protect human health and the environment from the past release of VOCs at the former Tecumseh Products Company facility.

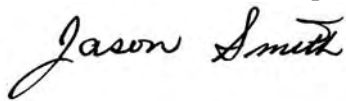
Tecumseh Products Company previously sent a letter with an enclosed Notice of Migration of Contamination to each owner of property located in the approximate vicinity where subsurface impacted groundwater has been detected. Tecumseh Products Company also implemented a comprehensive well survey to identify and address any private wells in the vicinity of contaminated groundwater. As we indicated in the letter accompanying the Notices of Migration, the City's municipal water supply wells are located in the opposite direction of groundwater flow, isolated by distance and direction from the contaminated groundwater plume. The City also routinely tests its public water system, and these tests verify that the city water supply is free of any VOCs. As an added confirmation, Tecumseh Products Company has installed a monitoring well located between the facility and the City's western water supply wells, and no VOCs have been detected in any of the samples taken from that monitoring well.

Working directly with the Michigan Department of Environmental Quality (MDEQ), and Tecumseh Products Company, the City of Tecumseh has drafted a proposed City Ordinance amendment to further ensure that residents do not come into contact with impacted groundwater. The proposed Ordinance amendment restricts the installation and use of groundwater supply wells at properties that have received the Notice of Migration of Contamination, as well as nearby surrounding properties as an extra precaution. A drawing depicting the restricted zone described in the Ordinance is attached to this letter. The City's municipal water supply system is available at all of the properties located within the restricted zone, and Tecumseh Products Company has offered to pay the cost of plugging any remaining private wells, and connecting any affected properties to the City's municipal water system.

In order to ensure that all properties in the restricted zone with a private well have been identified, Tecumseh Products Company is providing with this letter a **Well Survey Card** to determine if there is a private water supply well at your property. Please take a moment to fill out this **Well Survey Card** and return it in the enclosed stamped self-addressed envelope.

If you have any questions or concerns about the proposed Ordinance amendment or the enclosed Well Survey Card, please feel free to contact me at (731) 707-2889, or Randy Kopke, Tecumseh Products Company Facilities Manager, at (734) 585-9439, or any of the governmental officials listed below.

Sincerely,
Tecumseh Products Company

A handwritten signature in black ink that reads "Jason Smith". The signature is written in a cursive style with a large initial "J" and a stylized "S".

Jason Smith
Corporate Environmental Director

Enclosures: **Well Survey Card**
 Depiction of Restricted Zone in draft Ordinance

cc: Randy Kopke, Facilities Manager, Tecumseh Products Company
 Kevin Welch, Tecumseh City Manager
 Steven Cunningham, MDEQ
 Michelle Mullin, EPA
 Graham Crockford, Sr. Project Manager, RMT Inc.

Well Survey Card

Property Owner: «OwnerName»

Parcel Address: «Address1»

Parcel ID: «Parcel1»

Is there a private supply well at the property listed above?

Yes

No

If there is a private supply well, how is the well used? (check all that apply)

Well is Not Used

Cleaning and Other Household Use

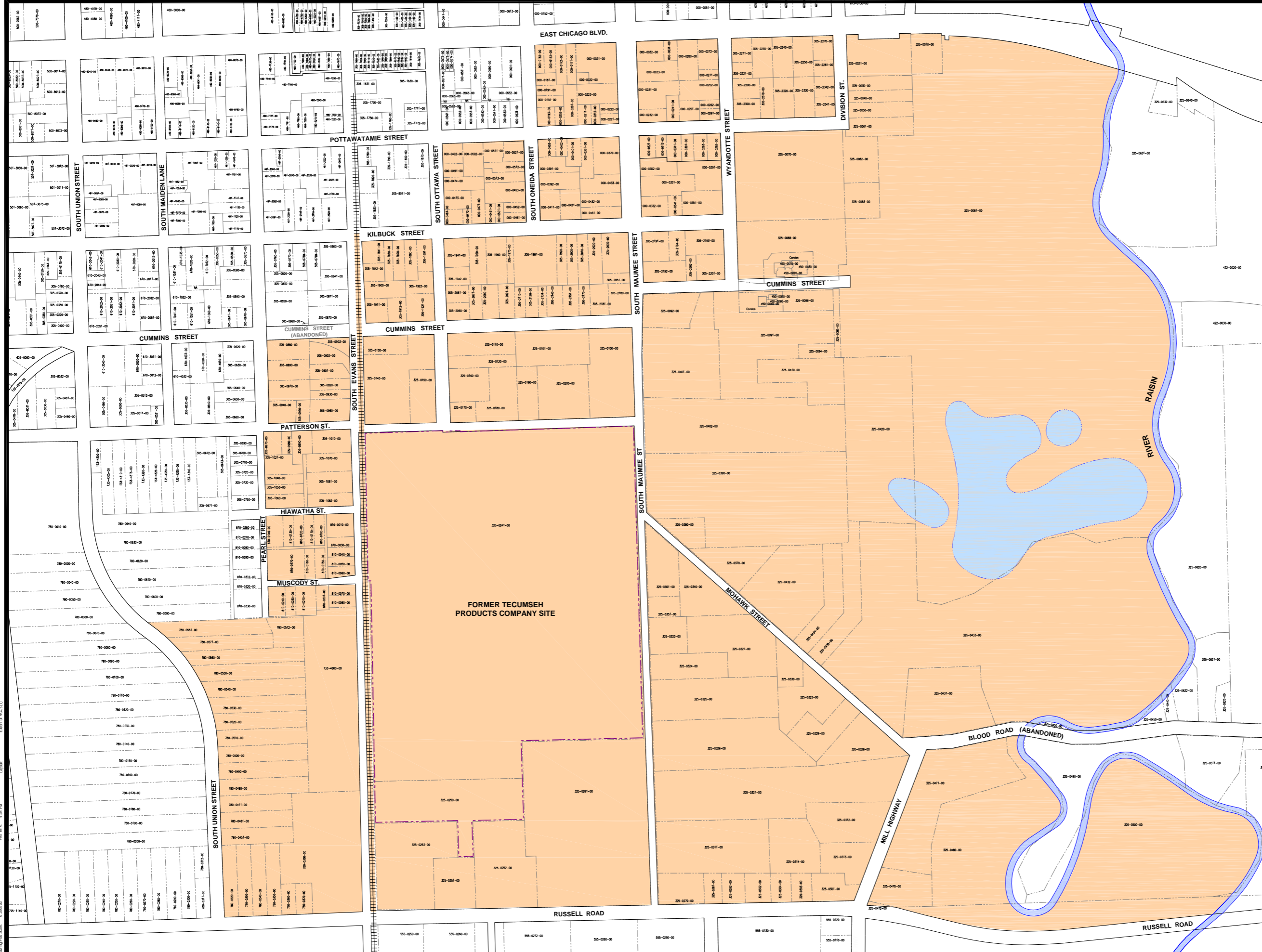
Drinking Water

Watering Lawn/Garden

Bathing

Other: _____

If you have any questions regarding this Well Survey Card, please contact Jason Smith, TPC Corporate Environmental Director at (731) 707-2889 or Randy Kopke, TPC Facilities Manager at (734) 585-9439.

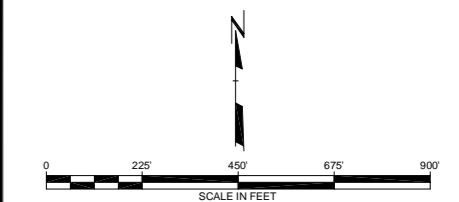


LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- 325-0241-00 PARCEL ID NUMBER
- ||||| RAILROAD TRACKS (APPROXIMATE LOCATION)
- AREA OF PROPOSED WELL ORDINANCE

NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY DWG, MARCH 2009.



NO.	BY	DATE	REVISION	APP'D.
5.				
4.				
3.				
2.				
1.				

**FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN**

AREA OF PROPOSED WELL ORDINANCE

DRAWN BY: SJA	DRAWING SCALE:	PROJECT NO: J-102751115
CHECKED BY: SEM	AS INDICATED	FILE NO: 02751.15.02.dwg
APPROVED BY: GC	DATE PRINTED:	FIGURE 1
DATE: March 2011		

2011 DATA
 J:\02751\0275115.dwg
 LUCAS, SAM
 Drawing File Size: 0.386493
 Date: 3/1/2011
 PLOT DATE: 3/1/2011
 Plot Time: 4:54 PM
 Layout: Extent of WCD: 1/1
 Attachments:
 Annotating Images:

Attachment 2



May 12, 2011

Regarding: Well Survey Card for Properties Affected by Proposed Groundwater Ordinance

Dear Property Owner:

On March 24, 2011 Tecumseh Products Company sent a letter to advise property owners of a proposed City Ordinance amendment restricting the use of groundwater in the vicinity of the former Tecumseh Products Company manufacturing facility at 100 East Patterson Street in Tecumseh, Michigan. As described in the letter dated March 24, 2011, the City of Tecumseh worked with the Michigan Department of Environmental Quality (MDEQ) and Tecumseh Products Company to draft the proposed City Ordinance amendment to further ensure that residents do not come into contact with impacted groundwater.

In order to ensure that all properties in the restricted zone with a private well have been identified, Tecumseh Products Company included a **Well Survey Card** with the March 24, 2011 letter to help determine if there is a private water supply well (used or unused) at your property. As of today's date, Tecumseh Products Company has not received your completed Well Survey Card. A second copy of the Well Survey Card is enclosed. Please take a moment to fill out this **Well Survey Card** and return it in the enclosed stamped self-addressed envelope.

If you have any questions or concerns about the proposed Ordinance amendment or the enclosed Well Survey Card, please feel free to contact me at (731) 707-2889, or Randy Kopke, Tecumseh Products Company Facilities Manager, at (734) 585-9439, or any of the governmental officials listed below.

Sincerely,
Tecumseh Products Company

A handwritten signature in black ink that reads "Jason Smith". The signature is written in a cursive style.

Jason Smith
Corporate Environmental Director

Enclosures: **Well Survey Card**
Stamped self-addressed envelope

cc: Randy Kopke, Facilities Manager, Tecumseh Products Company
Kevin Welch, Tecumseh City Manager
Steven Cunningham, MDEQ
Michelle Mullin, EPA
Graham Crockford, Sr. Project Manager, RMT Inc.

Well Survey Card

Property Owner: «OwnerName»

Parcel Address: «Address1»

Parcel ID: «Parcel1»

Is there a private supply well at the property listed above?

Yes

No

If there is a private supply well, how is the well used? (check all that apply)

Well is Not Used

Cleaning and Other Household Use

Drinking Water

Watering Lawn/Garden

Bathing

Other: _____

If you have any questions regarding this Well Survey Card, please contact Jason Smith, TPC Corporate Environmental Director at (731) 707-2889 or Randy Kopke, TPC Facilities Manager at (734) 585-9439.

Attachment 3



June 30, 2011

Regarding: Well Survey Card for Properties Affected by the City of Tecumseh Groundwater Use Ordinance

Dear Property Owner:

On March 24, 2011 Tecumseh Products Company sent a letter to advise property owners of a proposed City Ordinance amendment restricting the use of groundwater in the vicinity of the former Tecumseh Products Company manufacturing facility at 100 East Patterson Street in Tecumseh, Michigan. As described in the letter dated March 24, 2011, the City of Tecumseh worked with the Michigan Department of Environmental Quality (MDEQ) and Tecumseh Products Company to draft the Groundwater Use Ordinance amendment to further ensure that residents do not come into contact with impacted groundwater. The City of Tecumseh passed the Groundwater Use Ordinance amendment on June 6, 2011.

In order to ensure that all properties in the restricted zone with a private well have been identified, Tecumseh Products Company included a **Well Survey Card** with the March 24, 2011 letter to help determine if there is a private water supply well (used or unused) at your property. As of today's date, Tecumseh Products Company has not received your completed Well Survey Card. Another copy of the Well Survey Card is enclosed. Please take a moment to fill out this **Well Survey Card** and return it in the enclosed stamped self-addressed envelope.

If you have any questions or concerns about the Groundwater Use Ordinance amendment or the enclosed Well Survey Card, please feel free to contact me at (731) 707-2889, or Randy Kopke, Tecumseh Products Company Facilities Manager, at (734) 585-9439, or any of the governmental officials listed below.

Sincerely,
Tecumseh Products Company

A handwritten signature in black ink that reads "Jason Smith". The signature is written in a cursive, flowing style.

Jason Smith
Corporate Environmental Director

Enclosures: **Well Survey Card**
Stamped self-addressed envelope

cc: Randy Kopke, Facilities Manager, Tecumseh Products Company
Kevin Welch, Tecumseh City Manager
Graham Crockford, Sr. Project Manager, TRC Companies, Inc.

Well Survey Card

Property Owner: «OwnerName»

Parcel Address: «Address1»

Parcel ID: «Parcel1»

Is there a private supply well at the property listed above?

Yes

No

If there is a private supply well, how is the well used? (check all that apply)

Well is Not Used

Cleaning and Other Household Use

Drinking Water

Watering Lawn/Garden

Bathing

Other: _____

If you have any questions regarding this Well Survey Card, please contact Jason Smith, TPC Corporate Environmental Director at (731) 707-2889 or Randy Kopke, TPC Facilities Manager at (734) 585-9439.

Attachment 4



August 8, 2011

Regarding: Well Survey Card for Properties Affected by the City of Tecumseh Groundwater Use Ordinance

Dear Property Owner/Tenant:

As many residents are aware, the former Tecumseh Products Company facility in Tecumseh was sold to Tecumseh Bakery, LLC in December of 2009. As part of that transaction, an investigation was conducted at the facility which detected volatile organic compounds (VOCs) in soil and groundwater at the property. In March of 2010, Tecumseh Products Company entered into an Administrative Order on Consent (Consent Order) with the United States Environmental Protection Agency, under which Tecumseh Products Company is investigating the VOCs in soil and groundwater, including off-site groundwater impacts, in order to propose and implement final corrective measures necessary to protect human health and the environment from the past release of VOCs at the former Tecumseh Products Company facility.

To help ensure that residents do not come into contact with impacted groundwater the City of Tecumseh worked with the Michigan Department of Environmental Quality and Tecumseh Products Company to draft a Groundwater Use Ordinance amendment. The City of Tecumseh passed the Groundwater Use Ordinance amendment on June 6, 2011. This Ordinance amendment restricts the installation and use of groundwater supply wells at properties in the vicinity of affected groundwater.

To help ensure that properties in the restricted zone with a private well have been identified, Tecumseh Products Company has undertaken a comprehensive well survey in the area of restricted groundwater use. Tecumseh Products Company is willing to pay the cost of plugging private wells identified by the survey. A **Well Survey Card** is enclosed to determine if there is a private water supply well at your property. Please take a moment to fill out this **Well Survey Card** and return it in the enclosed stamped self-addressed envelope.

If you have any questions or concerns about the Groundwater Use Ordinance amendment or the enclosed Well Survey Card, please feel free to contact me at (731) 707-2889, or Randy Kopke, Tecumseh Products Company Facilities Manager, at (734) 585-9439.

Sincerely,
Tecumseh Products Company

Jason Smith
Corporate Environmental Director

Enclosure: **Well Survey Card** with a stamped self-addressed envelope

cc: Randy Kopke, Facilities Manager, Tecumseh Products Company
Graham Crockford, Sr. Project Manager, TRC Companies, Inc.

Well Survey Card

Property Owner: «OwnerName»

Parcel Address: «Address1»

Parcel ID: «Parcel1»

Is there a private supply well at the property listed above?

Yes

No

If there is a private supply well, how is the well used? (check all that apply)

Well is Not Used

Cleaning and Other Household Use

Drinking Water

Watering Lawn/Garden

Bathing

Other: _____

If you have any questions regarding this Well Survey Card, please contact Jason Smith, TPC Corporate Environmental Director at (731) 707-2889 or Randy Kopke, TPC Facilities Manager at (734) 585-9439.

Appendix E

Groundwater-Surface Water Flux Calculations

Groundwater Discharge Rate

The discharge rate of the venting contaminant plume was conservatively estimated using the following information:

- **Discharge Area (A)** - The most recent static water elevation at PRB-01 (778.46 feet) was measured during the August 2011 monitoring event. The elevation of the top of the basal clay near PRB-01 is approximately 748 feet. This results in the maximum saturated thickness of approximately 31 feet. The length of the discharge area was measured perpendicular to groundwater flow in the area downgradient of MW-31. This length is approximately 500 feet, which results in an estimated cross-sectional area of discharge of 15,500 square feet.
- **Horizontal Gradient (i)** - Using groundwater elevation data collected during the last monitoring event (provided in Table 1), the hydraulic gradient (i) across the site is estimated to be approximately 0.001. Horizontal gradient is roughly depicted in the attached groundwater contour map (Figure 11) and geologic cross-section (Figure 8);
- **Hydraulic Conductivity (k)** - In August 2011, single well response tests (slug tests) were conducted by TRC to determine the hydraulic conductivity along the eastern perimeter of the site in the vicinity of the permeable reactive barrier. The tests were performed in the sand and gravel layer at all PRB monitoring well locations. In-barrier monitoring well locations were not used in calculations because their hydraulic conductivity is not representative of the native sand and gravel unit. See Table E1 for a Summary of Single Well Response Test Results. The average hydraulic conductivity of the site is 3.53×10^{-3} cm/sec (1.1×10^{-4} ft/sec), and a maximum hydraulic conductivity of 1.1×10^{-2} cm/sec (4.6×10^{-4} ft/sec). The hydraulic conductivity measured is consistent with what would be expected in the sand units encountered at the PRB monitoring well locations. The maximum hydraulic conductivity (k_{max}) of 1.1×10^{-2} cm/sec (4.6×10^{-4} ft/sec) was used to conservatively calculate the discharge rate.
- **Groundwater Discharge Rate (Q_{gw})** - The groundwater discharge rate (Q_{gw}) of the venting contaminant plume was estimated using Darcy's Law:

$$Q_{gw} = k_{max}iA$$

$$Q_{gw} = 4.6 \times 10^{-4} \text{ ft/s} \times 0.001 \times 15,500 \text{ ft}^2 = 7.1 \times 10^{-3} \text{ ft}^3/\text{s}$$

The calculation groundwater discharge rate of 7.1×10^{-3} cubic feet per second (cfs) is equivalent to 3.2 gallons per minute.

Note that this calculation of groundwater discharge was conservatively estimated using cross section area, gradient and hydraulic conductivity measure along the eastern boundary of the site. This estimate is conservative and appropriate for purposes of this qualitative Environmental Indicators Report. However, as more data becomes available, it may be appropriate to update this calculation.

Flow Rate at in the River Raisin (Q_{river})

The flow rate in the River Raisin is monitoring at gauging stations by the US Geologic Survey (USGS). Data from the two gauging stations nearest the site: one upstream in Manchester, Michigan and one downstream in Adrian, Michigan were obtained from the USGS website. Flow data from the last five years was averaged at each of these locations. Average flow at the gauging station located approximately 8 miles downstream of the site in Adrian is much higher (696 cfs) than average flow at the gauging station location approximately 11 miles upstream or the site in Manchester (143 cfs). For purposes of these calculations, the lower average flow rate (143 cfs or 64,000 gallons per minute) was used as a conservative estimate of average flow in the River Raisin near the site.

Ratio of Flow Rate at in the River to the Groundwater Discharge Rate

Using the mean flow in the River Raisin of 143 cfs and a groundwater discharge rate of 7.1×10^{-3} cfs, the mixing ratio between the River Raising and the affected groundwater venting to the river is approximately 20,000:1.

Prepared by: J. Hoffman

Checked by: J. Bacon and S. Metz

Table E1
 Summary of Single Well Response Test Results
 Former Tecumseh Products Company Site
 Tecumseh, Michigan

Monitoring Well ID	Screened Interval Lithology	Test Type	Average	
			Hydraulic Conductivity (ft/day)	Hydraulic Conductivity (cm/sec)
PRB-03s	Coarse Sand and Gravel	SLUG IN SLUG OUT	6.87E+00	2.42E-03
PRB-04d	Coarse Sand and Gravel	SLUG IN SLUG OUT	3.11E+01	1.10E-02
PRB-04s	Coarse Sand and Gravel	SLUG IN SLUG OUT	1.21E+01	4.27E-03
PRB-05s	Coarse Sand and Gravel	SLUG IN SLUG OUT	1.41E+01	4.96E-03
PRB-07s	Coarse Sand and Gravel	SLUG IN SLUG OUT	5.80E+00	2.04E-03
PRB-08d	Coarse Sand and Gravel	SLUG IN SLUG OUT	1.49E+01	5.27E-03
PRB-08s	Coarse Sand and Gravel	SLUG IN SLUG OUT	6.32E+00	2.23E-03
PRB-10s	Coarse Sand and Gravel	SLUG IN SLUG OUT	4.81E+00	1.70E-03
PRB-11s	Coarse Sand and Gravel	SLUG IN SLUG OUT	2.80E+00	9.89E-04
PRB-12s	Coarse Sand and Gravel	SLUG IN SLUG OUT	7.98E+00	2.81E-03
PRB-13s	Coarse Sand and Gravel	SLUG IN SLUG OUT	1.40E+00	4.94E-04
PRB-15d	Coarse Sand and Gravel	SLUG IN SLUG OUT	1.60E+01	5.66E-03
PRB-15s	Coarse Sand and Gravel	SLUG IN SLUG OUT	5.86E+00	2.07E-03

Minimum Hydraulic Conductivity	1.40E+00	4.94E-04
Maximum Hydraulic Conductivity	3.11E+01	1.10E-02
Average Hydraulic Conductivity	1.00E+01	3.53E-03

Notes

Bouwer-Rice method used to calculate hydraulic conductivity values.