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October 15, 2015

Mr. Joseph Kelly
Project Manager
USEPA, Region 5
77 West Jackson Boulevard
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Chicago, IL 60604-3590

Subject: **RCRA 3008(h) Administrative Order on Consent (RCRA-05-2010-0012) – Tecumseh Products Company**
Third Quarter 2015 Progress Report – MID 005-049-440

Dear Mr. Kelly:

Pursuant to Section VI of the above referenced Administrative Order on Consent (Consent Order) effective March 29, 2010, TRC Environmental Corporation (TRC), on behalf of the Respondent Tecumseh Products Company (TPC), submits this Third Quarter 2015 Progress Report. This report describes activities related to the Consent Order completed by TPC during the third quarter 2015 and planned for completion in the near future. The organization of this document includes, as major headings, the items required under Sections V through VIII of the Consent Order.

V. Project Manager

- The TPC Project Manager is Graham Crockford of TRC.
- The USEPA Project Manager is Joseph Kelly.

VI. Work to be Performed – Remedial Investigation Report and Environmental Indicators Reports

1. A description of activities related to the completion of the Remedial Investigation (RI) Report and the Environmental Indicator (EI) Reports:

- **Investigation Activities**
  - **Characterize Releases at or from the Facility –** The findings of source area investigation activities completed through August 2012 are documented in the September 2012 Remedial Investigation and Groundwater Environmental Indicator Report (2012 RI/EI Report). A Supplemental Groundwater Investigation Workplan was submitted and

implemented during the first quarter 2013. A technical memorandum documenting the findings of those investigation activities was submitted as an attachment to the Second Quarter 2013 Progress Report. A passive soil gas (PSG) survey was completed through the central and southern portion of the former TPC building during the third quarter 2013. A Technical Memorandum which summaries the findings of the 2013 PSG survey was included as an appendix to the First Quarter 2014 Progress Report. In April 2014 a supplemental PSG survey was conducted by TRC to further evaluate certain discrete areas requested by USEPA including the former engineering area, drum storage areas, tank area, areas adjacent to railroad spurs where loading and unloading may have occurred, and the area east/southeast of the southern portion of the building where a number of outbuildings and two hazardous waste storage areas were located. A technical memorandum which summarized the findings of the 2014 PSG survey was submitted to USEPA in June 2014. A source area membrane interface probe (MIP) investigation was conducted between June 2014 and July 2014. MIP data were submitted to USEPA as they became available. TRC submitted the MIP Investigation Report and Workplan for High Resolution Site Characterization on December 31, 2014. The Revised MIP Investigation Report and Workplan for High Resolution Site Characterization was submitted on April 30, 2015 (HRSC Workplan). Field activities described in the HRSC Workplan were completed between April 2015 and June 2015. Preliminary data were reported to USEPA as they became available. On July 31, 2015 the Supplement to Remedial Investigation and Environmental Indicator Report was submitted to USEPA. This Supplement included tabulated soil and groundwater data, soil boring logs and laboratory reports from the HRSC Investigation. Since that time comprehensive evaluation of HRSC data collected during the April through June 2015 investigation activities was completed by TRC. The findings of that data evaluation are documented in the 2015 High Resolution Site Characterization Report and Updated Conceptual Site Model, which is included as Attachment 1. That Report includes a description of refinements made to conceptual site model as they pertain to site geology/hydrogeology and to the extent/distribution of contaminants. That Report also includes a description of planned environmental work to support risk assessment, development of the Final Corrective Measures Proposal, and long-term monitoring.

– **Define Appropriate Screening Criteria –** Screening criteria are described in detail in the 2012 RI/EI Report and the 2013 Supplement to the Current Human Exposures Under Control Environmental Indicator Report. Screening criteria include:

  - Generic Michigan Department of Environmental Quality (MDEQ) Part 201 Cleanup Criteria;
  - MDEQ Screening levels for the volatilization to indoor air migration pathway, as documented in the 2013 MDEQ *Guidance Document for the Vapor Intrusion Pathway*;

- MDEQ Rule 57 Surface Water Quality Values; and
- A site-specific groundwater contact criterion for trichloroethene (TCE) which reflects the 2011 revisions to TCE toxicity data.

As described in Appendix A, preparation of a pathway evaluation is underway. Where concentrations exceed generic screening levels, risk assessment/evaluation may include the development of additional site-specific screening criteria.

– **Define Any Unacceptable Risks to Human Health –** The 2011 Current Human Exposures Under Control Environmental Indicator Report (2011 EI Report) provided the required demonstration of current human exposures to affected media under control. In September 2013 the Supplement to the Current Human Exposures Under Control Environmental Indicator Report (2013 Supplemental EI Report) was prepared and submitted to address USEPA comments (provided between December 2011 and October 2012) and to provide additional data and documentation verifying the 2011 EI Report. USEPA provided comments on the 2013 Supplemental EI Report on January 31, 2014. During the May 2014 project meeting with USEPA, TPC agreed to attempt (contingent on owner agreement) to further verify this assessment at nine residential properties north of the site and one non-residential property southeast of the site. During the third quarter 2014, TPC was able to complete indoor air sampling (5 total) and/or sub-slab depressurization/ventilation system installation (5 total) at each of the nine residential properties. No indoor air criteria exceedances were found.

Following extended discussion, the owner of a non-residential property southeast of the site agreed to allow the installation of soil gas sample points at each corner of the main (occupied) building on that property. Soil gas sample points were installed in late September 2014, and the initial sample event was completed in October 2014 as documented in the October 30, 2014 letter report to the property owner. Soil gas sample results from the November 2014 soil gas sample event confirm the initial sample results. A sub-slab soil gas sample point was installed in the northeast corner of the industrial building located on that property in February 2015, and an initial sample event was completed in March 2015. Sample results from June 2015 indicate the TCE concentration at this location periodically exceeds the generic non-residential sub-slab soil gas screening level (SGSL). As described in the June 2015 *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway for Subsurface Vapor Sources to Indoor Air* (OSWER Publication 9200.2-154), this SGSL is dependent on building volume, the air exchange rate, and slab construction. A building specific attenuation factor was calculated which indicates that soil gas concentrations are acceptable. On September 18, 2015, USEPA requested that a single indoor air sampling event be completed to verify this calculation. The property owner has agreed to allow the proposed indoor air sampling event. This confirmation sampling is scheduled for October 26-27, 2015.

Based on recent data from soil gas sample point SG-20, TPC completed indoor sampling at the four residential properties near this location in May 2015. Sample results were reported to homeowners and USEPA as they became available. TCE, the constituent of concern that prompted this testing, was not detected at any of the indoor air samples.

Results of the HRSC Investigation were used to prepare a figure illustrating the extent of volatile organic compounds (VOCs) in shallow groundwater above MDEQ groundwater screening levels for vapor intrusion (GWSLs) (Figure 14 in Attachment 1). Soil gas sampling has been completed throughout this area. At residential locations where soil gas data have exceeded residential SGSLs, indoor air sampling and/or installation of a mitigation system has been completed as described above.

- **Define Any Unacceptable Risks to the Environment –** The potential for unacceptable risk to the environment related to the discharge of affected groundwater to nearby surface water and wetlands was evaluated in the 2012 RI/EI Report. This evaluation included the use of site-specific mixing zone-based GSI criteria. Supplemental investigation is planned to be completed in the wetlands east of MW-31 to address MDEQ comments on the Mixing-Zone Evaluation as described in Appendix B of Attachment 1. TRC anticipates that this will be completed in November 2015. Data from this investigation will be used to supplement the August 2013 application for a site specific mixing zone-based GSI. Findings of this investigation will be summarized in the fourth quarter 2015 progress report, and considered in the Final Corrective Measures Proposal.
- **Determine the Stability of Contaminated Groundwater –** Pursuant to the Consent Order, the 2012 RI/EI Report was submitted in September 2012. A supplemental evaluation of groundwater stability was submitted to USEPA on July 31, 2015. Concentrations of VOCs are stable or decreasing at wells located within source area and around the outer edge of the groundwater plume. However, due to increasing trends at a small number of wells located within the downgradient plume, USEPA contends the stability of contaminated groundwater has not been demonstrated to its satisfaction. Proposed modifications to the monitoring well network, including the installation of 15 new wells within the areas of higher contaminant mass, as described in Attachment 1. The proposed wells are placed to monitor intra-plume stability. TPC expects that final corrective measures will include on-site groundwater treatment that will reduce the VOC mass within the downgradient plume.

- **Response and Mitigation Measures –** Response and mitigation measures conducted through 2013 are documented in the 2011 EI Report, the 2012 RI/EI Report, and the 2013 Supplemental EI Report. These measures include:
  - A local groundwater use ordinance;
  - The decommissioning of private wells in the vicinity of affected groundwater;

- A Declaration of Restrictive Covenant and License Agreement Regarding Environmental Work for the site;
- Mitigation of on-site indoor air in areas that were occupied, or are expected to be occupied in the future, including:
  - Installation of a sub-slab depressurization/ventilation (SSDV) system in S-Building (the office area for the site manager)[1]; and
  - Installation of a soil vapor extraction (SVE) system in P-Building.
- Monitoring and mitigation of off-site indoor air, including:
  - Installation of a SSDV system at one residential property east of the site and five residential properties north of the site;
  - Completion of crawlspace sampling activities at four residential properties east of the site and one residential property north of the site;
  - Completion of indoor air sampling at three residential properties north of the site and four residential properties west of the site;
  - Installation of a permeable reactive barrier (PRB) downgradient of the southern source area to address the potential off-site vapor intrusion pathway, by treating shallow groundwater affected with chlorinated volatile organic compounds (CVOCs) before the groundwater migrates off-site; and
  - Installation of a perimeter SVE system as described in the November 2013 Workplan to Install a Perimeter Soil Vapor Extraction System.[2]

- **Reporting and Summary of Work Completed**
  - **Environmental Indicators Report: Current Human Exposures Under Control –** TRC submitted the 2011 EI Report to USEPA on September 29, 2011. USEPA provided TPC with comments regarding the 2011 EI Report on December 5, 2011. TPC responded to USEPA comments on December 19, 2011. On December 28, 2011, USEPA proposed an extension for USEPA to complete the CA-725 Form until December 12, 2012, so that confirmation indoor air/crawlspace sampling data from the residential properties east of the site (610 Mohawk, 704 Mohawk, 502 Mohawk, 505 South Maumee Street, and 507 South Maumee Street) could be evaluated by USEPA. This work was completed as intended during the fourth quarter 2012. However, during an October 29-30, 2012 project meeting, USEPA requested additional work, which TPC set forth in a Technical

[1] At present, the building is no longer occupied by the site manager or any other regular employees. The site owner has disconnected electrical service. Consequently, this SSDV system is not, at present, operating.
[2] Operation of the perimeter SVE system began on March 7, 2014, using a rental SVE blower unit. The permanent blower enclosure was installed on July 10, 2014.

Memorandum dated December 5, 2012 and Revised December 19, 2012. Those action items included:

- Table summaries related to the conceptual site model (included in the Fourth Quarter 2012 Quarterly Progress Report); and
- Four consecutive soil gas sample events at soil gas monitoring locations north and west of the site after SVE system installation (through second quarter 2013), in order to further document the effectiveness of the SVE system.

On March 6, 2013, USEPA extended the date for the Current Human Exposures Demonstration to September 30, 2013 to allow TPC to complete the above described work. Consistent with this extension, the 2013 Supplemental EI Report was submitted to USEPA on September 30, 2013. USEPA provided comments on the 2013 Supplemental EI Report on January 31, 2014. During the May 2014 project meeting with USEPA, TPC agreed to attempt (contingent on owner agreement) to further verify this assessment at nine residential properties north of the site and at one non-residential property southeast of the site. As described above, initial assessment and/or mitigation was completed at each property in 2014.

Data collection and the development of appropriate corrective measures to ensure that current and future human exposures remain under control is ongoing.

– **Environmental Indicators Report: Groundwater Stabilized –** TRC submitted the 2012 RI/EI Report to USEPA on September 28, 2012. During the October 29-30, 2012 project meeting, USEPA requested the following:

- Additional sample events at monitoring wells where VOC concentration data exhibit relatively high standard deviation.
- Preparation of a workplan to address USEPA comments regarding groundwater stability and remedial investigation activities. The Supplemental Groundwater Investigation Workplan for the Former Tecumseh Products Company Site in Tecumseh, Michigan was submitted and implemented during the first quarter 2013.
- Installation of additional monitoring wells and subsequent monitoring at those locations in accordance with the Supplemental Groundwater Investigation Workplan.

On March 6, 2013, USEPA extended the date for the Remedial Investigation and Groundwater Environmental Indicator Determination to July 31, 2015. This extension allowed TPC to complete eight quarterly sample events prior to the submittal of a Supplement to the 2012 RI/EI Report at monitoring locations which were installed in March 2013. On July 31, 2015 the Supplement to Remedial Investigation and Environmental

Indicator Report was submitted to USEPA, which included an assessment of groundwater stability at existing monitoring locations, including those installed in 2012.

The January 2014 USEPA comment letter regarding the 2013 Supplemental EI Report extended beyond the scope of current human exposures to provide additional comments on the remedial investigation and on groundwater stability. In 2014, additional on-site and perimeter investigation activities were completed, and a HRSC Workplan was prepared to address concerns raised in that comment letter and the subsequent May 2014 project meeting regarding the extent and stability of affected groundwater. Field activities described in the HRSC Workplan were completed between April 2015 and June 2015. Preliminary data were reported to USEPA as they became available. The findings of that data evaluation are documented in the 2015 High Resolution Site Characterization Report and Updated Conceptual Site Model, which is included as Attachment 1.

– **Remedial Investigation Report –** TRC submitted the Remedial Investigation Report with the 2012 RI/EI Report to USEPA on September 28, 2012. As described above, USEPA extended the date for the Remedial Investigation and Groundwater Environmental Indicator Determination to July 31, 2015. In 2014, USEPA requested that additional remedial investigation activities be completed for purposes of HRSC. Field activities described in the HRSC Workplan were completed between April 2015 and June 2015. Preliminary data were reported to USEPA as they became available. On July 31, 2015 the Supplement to Remedial Investigation and Environmental Indicator Report was submitted to USEPA which included tabulated soil and groundwater data, soil boring logs and laboratory reports from the HRSC Investigation. Since that time comprehensive evaluation of HRSC data collected during the April through June 2015 investigation activities was completed by TRC. The findings of that data evaluation are documented in the 2015 High Resolution Site Characterization Report and Updated Conceptual Site Model, which is included as Attachment 1. TPC will use the findings of the 2015 HRSC investigation for the development of the Final Corrective Measures Proposal, which is currently scheduled to be submitted to USEPA by January 31, 2016.

2. A Summary of Activities during the Reporting Period

- July 2015 – Notices of off-site migration were submitted for 27 additional parcels.
- July 2015 – The *Supplement to the Remedial Investigation and Environmental Indicator Report (Migration of Contaminated Groundwater Under Control)* was submitted to USEPA.
- August 2015 – As requested by USEPA, the format of draft First Amendment to the Declaration of Restrictive Covenant was revised to be consistent with the recently revised MDEQ template.
- August-September 2015 – A supplemental groundwater-surface water interface (GSI) investigation was completed, as proposed in the July 27, 2015 Technical Memorandum.

- September 2015 – Operation and maintenance of the P-Building SVE system was completed, including the collection of exhaust samples for VOCs analysis, to help determine the appropriate timeline for carbon change out.
- September 2015 – Operation and maintenance of the Perimeter SVE system was completed, including the collection of exhaust samples for VOCs analysis, to help determine the appropriate timeline for carbon change out.
- September 2015 – Ongoing operation of the SSDV system at 704 Mohawk was verified.
- September 2015 – Vacuum pressure and methane concentrations were measured at all PRB vent locations and at the two downgradient soil gas sample points (SG-02 and SG-03R).
- September 2015 – The third quarter 2015 off-site soil gas sample event was completed. A table summarizing soil gas sampling data collected during that sampling event is included as Attachment 2.
- September 2015 – A building-specific attenuation factor was calculated for the main building of a non-residential property southeast of the site.

3. A Summary of Contacts with Representatives of Local Community, Public Interest Groups, or State Government during the Reporting Period

- Notices of Off-Site Migrations were submitted to the owners of 27 downgradient properties. Copies of these notices were also provided to MDEQ.
- The MDEQ was provided a copy of the July 27, 2015 Technical Memorandum titled *Proposed Investigation of the Groundwater-Surface Water Investigation Pathway: Former Tecumseh Products Company Site in Tecumseh, Michigan (RCRA-05-2010-0012)*.
- At the request of one property owner, TRC provided that owner with a copy of the Second Quarter 2015 Progress Report.
- TRC communicated with the Tecumseh District Library personnel in order to update the public repository at the Tecumseh District Library in July and September 2015.
- TRC communicated with an off-site property owner to coordinate GSI investigation activities.
- TPC communicated with the City of Tecumseh to coordinate GSI investigation activities.
- TPC was notified that the Kevin Welch, the City Manager, had left his position with the City of Tecumseh and that Joe Tuckey, the Fire Chief, would be serving as interim City Manager.
- TPC responded to questions from a property owner regarding his Notice of Off-Site Migration.
- TRC provided HRSC sample results to an interested property owner.

- TPC communicated with the owner of a non-residential property southeast of the site regarding the results of the first quarter soil gas sampling event.
- TPC and TRC communicated with the City of Tecumseh and the potential buyer regarding the status of the ongoing potential demolition, the proposed sale of the property, and redevelopment options for the site.
- TRC communicated with the City of Tecumseh Fire Department regarding fire watch activities to help ensure safe access to the building, as required by the City of Tecumseh.

4. A Summary of Problems and Potential Problems Encountered During the Reporting Period

- No new problems were noted during the third quarter 2015.

5. Action Taken to Rectify Problems Identified Above

- No new problems were noted during the third quarter 2015.

6. Changes in Personnel During Reporting Period

- No TPC/TRC project personnel have changed.

7. Projected Work for the Next Reporting Period

- Complete GSI investigation activities as described in Appendix B of Attachment 1;
- Complete a focused investigation in the vicinity of the tetrachloroethene source area to support development of corrective measures;
- Prepare an exposure pathway evaluation;
- Meet with USEPA to discuss HRSC investigation results and the proposed final corrective measures;
- Come to agreement with USEPA on the proposed groundwater monitoring program, including the locations of new monitoring wells;
- Continue routine perimeter SVE system operation and maintenance, including completion of carbon change out as needed;
- Continue routine P-Building SVE system operation and maintenance, including completion of carbon change out as needed;
- Complete the regular quarterly SSDV system inspection at the residential property located at 704 Mohawk;
- Complete the fourth quarter 2015 groundwater sampling event and evaluate sampling results;
- Complete the fourth quarter 2015 off-site soil gas sample event and evaluate sampling results;

- Collect gas composition readings at vents installed along the length of the PRB;
- Begin evaluation of potential remedial options.

VI. Work to be Performed – Final Corrective Measures Proposal

Data collected as part of the RI investigations, as described previously in this progress report, will be used to develop the Final Corrective Measures Proposal. Submittal of the Final Corrective Measures Proposal is currently scheduled for January 31, 2016.

VI. Work to be Performed – Final Corrective Measures Implementation

Work related to the Final Corrective Measures Implementation will be initiated following USEPA's Final Decision.

VI. Work to be Performed – Establish Public Repository of Information

TPC established a public repository in the City Clerk's office at City Hall in August 2010. To address USEPA comments, the public repository was relocated to the Tecumseh District Library in November 2011. A notice sheet has been posted on the bulletin board at the Tecumseh District Library which lists and briefly describes the documents included in the public repository. TPC updates the public repository as appropriate.

VII. Access

No new access agreements were obtained during the third quarter 2015.

VIII. Cost Estimates and Assurances of Financial Responsibility

In accordance with the Consent Order, TPC submitted an annually updated cost estimate on January 30, 2015. The cost estimate was $2,052,600. Based on questions from USEPA, clarifications to the cost estimate were submitted on March 2, 2015. In September 2014 a letter of credit for $2,073,800 was issued; this letter of credit was renewed automatically in September 2015.

On October 7, 2015, TPC received a Notice of Violation (NOV) from USEPA that was dated October 1, 2015. A response to the NOV will be provided to the USEPA by November 6, 2015.

If you have any questions regarding this progress report, or the attachments, please contact me at (734) 585-7813, or gcrockford@trcsolutions.com.

Sincerely,

TRC Environmental Corporation

Graham Crockford, C.P.G.
Project Manager

Attachments:

Attachment 1: 2015 High Resolution Site Characterization Report and Updated Conceptual Site Model

Attachment 2: Soil Gas Sample Data Table – Third Quarter 2015

cc: Susan Perdomo, USEPA
Michael Beedle, USEPA
Colleen Olsberg, USEPA
Bhooma Sundar, USEPA
David Petrovski, USEPA
Mario Mangino, USEPA
Daniel Mazur, USEPA
Carrie Williamson, Tecumseh Products Company
Chris DeWetter, Tecumseh Products Company
Jason Smith, Tecumseh Products Company
Douglas McClure, Conlin, McKenney & Philbrick, PC
Stacy Metz, TRC Environmental Corporation
Jason Miller, Great Lake Aerial Maintenance and Construction Co. Inc.
Dave Roberts, Tecumseh Food, Machinery & Engineering, LLC
Tecumseh District Library – Public Repository
Mary Speer, Resident

Attachment 1
2015 High Resolution Site Characterization Report and Updated Conceptual Site Model

2015 High Resolution Site Characterization Report and Updated Conceptual Site Model

Former Tecumseh Products Company Site
Tecumseh, Michigan

RCRA-05-2010-0012

October 2015

2015 High Resolution Site Characterization Report and Updated Conceptual Site Model

Former Tecumseh Products Company Site
Tecumseh, Michigan

RCRA-05-2010-0012

October 2015

Prepared For
Tecumseh Products Company

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Section 1
Introduction

1.1 Project Summary

In 2008, a Phase I Environmental Site Assessment (ESA) was conducted by Atwell-Hicks, LLC, as part of the sale of the former Tecumseh Products Company (TPC) facility located in Tecumseh, Michigan. The Phase I ESA report recommended that a Phase II Subsurface Investigation be conducted to address the recognized environmental conditions (RECs) identified in the Phase I ESA. A Phase II ESA was performed by ATC Environmental Consultants (ATC) on behalf of the buyer between December 2008 and February 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), now TRC Environmental Corporation (TRC) [1], to assist with environmental investigation and remediation activities at the former TPC site located at 100 East Patterson Street in Tecumseh, Michigan. A phased series of investigations ensued. These investigation activities are described in previous submittals to the United States Environmental Protection Agency (USEPA).

Soil and analytical data indicate that concentrations of chlorinated volatile organic compounds (CVOCs) are elevated throughout the site. Investigation activities included an assessment of potential CVOC sources and RECs. Operations in the vicinity of Solid Waste Management Unit (SWMU) 5, the Distillation Solvent Recovery System, may be a source area for 1,1,1-trichloroethane (TCA) and trichloroethene (TCE) in soil and groundwater. However, there is no evidence that other documented units (SWMUs, underground storage tanks, above-ground storage tanks, etc.) are a significant source of on-site CVOCs. Rather, the great majority of on-site CVOCs appear to be a result of long-term industrial operations at the site and incidental spillage associated with those operations. This subsurface CVOC contamination has been the focus of site-wide remedial investigation activities and corrective measures.

In January 2014 USEPA provided comments regarding the site assessment and requested the completion of high-resolution site characterization (HRSC) to refine and verify the conceptual site model. TRC prepared and summited a Scope of Work to address those comments in March 2014. The proposed work was initiated in early 2014 and is ongoing. Data has been

[1] In June 2011, TRC acquired the Environmental Business Unit of RMT. References to TRC through the remainder of this report are inclusive of RMT prior to that acquisition.

collected and evaluated in a stepwise fashion so that, to the extent feasible, investigation activities are optimized to provide timely and cost-effective refinement of the conceptual site model. Overall, HRSC activities for the TPC site can be subdivided into six major steps: 1) a passive soil gas (PSG) survey, 2) a membrane interface probe (MIP) investigation, 3) MIP confirmation sampling, 4) HRSC vertical profile sampling, 5) focused follow-up investigation activities, and 6) long-term monitoring.

Between 2010 and 2014 passive soil gas (PSG) surveys were completed throughout the footprint of the manufacturing area and beyond to several areas which had the potential to be discrete source areas, specifically the former drum storage areas, tank areas, areas adjacent to former railroad spurs where loading/unloading of materials may have occurred, and the area east/southeast of the southern portion of the building where a number of outbuildings and two hazardous waste storage areas were located. This work was completed as described in the March 27, 2014 Scope of Work and the June 18, 2014 Technical Memorandum titled *Summary of 2014 Passive Soil Gas Survey Activities*; *Former Tecumseh Products Company Site in Tecumseh, Michigan (RCRA-05-2010-0012).* PSG survey results were used to determine the reasonable lateral extent of source areas to be targeted for further investigation.

Following completion of PSG survey investigation activities, an MIP investigation was completed between June 17 and July 24, 2014. The purpose of the MIP investigation was to provide high-density vertical distribution data in the source areas/potential source areas. Using PSG survey data, a total of 21 initial MIP investigation locations were selected with input from USEPA prior to initiation of MIP investigation activities. MIP investigation techniques allow data to be viewed and reported in real time. TRC staff reviewed these preliminary MIP data as they became available, adjusting the project scope and selecting additional investigation locations based on the findings at previous investigation locations. This dynamic approach allowed vertical screening throughout the site to be completed in a single mobilization. Ultimately a total of 68 MIP borings were completed. Findings of the MIP investigation were provided in a presentation to USEPA on October 23, 2014. At that time, USEPA requested that a workplan be prepared for the remaining HRSC work which had been proposed in the March 27, 2014 Scope of Work including MIP confirmation sampling and off-site vertical profile sampling. MIP investigation data were evaluated and three-dimensional (3-D) visualizations of these data were prepared using Environmental Visualization System (EVS) software. Results of the MIP investigation and a workplan for ongoing HRSC activities were documented in the April 2015 revision of the *MIP Investigation Report and Workplan for High Resolution Site Characterization* (HRSC Workplan).

1.2 Purpose and Scope

Between April 27, 2015 and June 9, 2015, MIP confirmation sampling and HRSC vertical profile sampling were completed in general accordance with the HRSC Workplan. Draft data were provided to USEPA as they became available. On July 31, 2015 final data were provided to USEPA including a figure showing investigation locations, tabulated soil and groundwater data, laboratory analytical reports, and soil boring logs.

Since that time, a comprehensive evaluation of HRSC data collected during the April through June 2015 investigation activities was completed by TRC. This *2015 High Resolution Site Characterization Report and Updated Conceptual Site Model* (Report) was prepared to document the findings of that data evaluation. Specifically, this report includes:

- An updated site description including site geology and hydrogeology;
- An evaluation of MIP confirmation sample data;
- An evaluation of groundwater chemistry data; and
- A summary of ongoing and proposed future investigation activities, including proposed revisions to the monitoring well network.

Section 2
Site Description

2.1 Site Overview

The former Tecumseh Products Company (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 325-0250-00 is a 3.4-acre grass-covered area located outside of the southern site fence. Parcel number 325-0241-00 occupies 47.1 acres and is located along the northern portion of the site. This parcel includes the main manufacturing building, which is located along the western perimeter of the site. East of the main building, the site is occupied by the former parking area in the north and a grassy area in the south.

2.2 Site Operations

The former TPC site was occupied by a series of interconnected buildings/building additions that had a total area of 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.[2] The oldest portions of the main building, referred to as Area H, Area D, 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 (TCE) and later 1,1,1-trichloroethane (TCA) were used for parts degreasing. TPC records indicate that the use of these solvents was discontinued in March 1992. Site data indicate that

[2] In 2013 a portion of the main building and several outbuildings were demolished; the building slab remains in place. The demolished portion of the facility is illustrated on Figure 2. Due diligence is underway by a prospective purchaser; if the pending property sale is finalized, the site redevelopment plan includes demolition of the remaining on-site structures with the exception of P-Building and S-Building, site grading, and subsequent construction of more modestly sized (on the order of 10,000 to 20,000 square feet) commercial buildings.

these solvents were used throughout the building footprint. Investigation activities, prior to 2015, also identified comparably low concentrations of tetrachloroethene (PCE) in isolated areas of the site, indicating that, although the use of PCE-based solvents was very limited, PCE had also, apparently, been used at the site.[3]

Site operations since June 2008 are outlined below:

- Research and product testing continued at the site after manufacturing operations ceased in June 2008. Approximately 30 TPC employees continued to occupy the office and engineering portions of the main building (Areas H, J, and Z), located in the northwest portion of the site. During this period the remainder of the facility was unoccupied, with the exception of S-Building, which housed on-site security.
- In December 2009, the site was purchased by Tecumseh Bakery, LLC, a holding company for Consolidated Biscuit Company (CBC). Site use and occupancy was not immediately impacted by the property sale. TPC research and development staff continued to occupy the office and engineering portions of the main building through a lease, and on-site security was maintained.
- In April 2010, CBC was purchased by Healthside Food Solutions; Tecumseh Bakery, LLC, became an independent entity and plans to occupy the site for bakery operations were terminated. Site occupancy and use were not impacted.
- In February 2012, the site was purchased by Tecumseh Food, Machinery & Engineering, LLC (TFME). When TFME purchased the site, on-site security was dismissed. A TFME site manager was employed. He worked out of an office located in the old security area (S-Building). Intermittently TFME hired temporary employees to scrap the equipment that TFME had stored on site.
- In June 2012, TPC completed the relocation of its research and development team to a new facility.
- In 2013, TFME finished scrapping the equipment stored on-site and building demolition began. On-site utility service (electrical, water, etc.) was discontinued except where maintained by TPC to power on-site soil vapor extraction systems. The southern portion of the main manufacturing building and a number of outbuildings were demolished in 2013 (Figure 2). Although plans to demolish the remainder of the main building excluding

[3] Due to isolated detections of PCE during previous investigation activities, PCE was documented as a constituent of concern as early as 2009. As described later in this document, PCE was detected at relatively high concentrations near the southern property line during 2015 HRSC investigation activities. The source of this PCE is unknown. TPC subsequently reviewed internal records and interviewed former TPC personnel in an effort to identify how and when PCE-based solvents were used at the site. However, this investigation did not find any documented use of PCE at the facility.

P-Building and S-Building remain in place, no further demolition has been completed since 2013.

- In 2015, TFME entered into a purchase agreement with a prospective purchaser. This prospective purchaser is in the process of completing due diligence prior to finalization of the sale.

2.3 Site Geology and Hydrogeology

2.3.1 Overview

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 approximately 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 June 2015. Site geology generally consists of a surficial silty/sandy clay interval, underlain by unconsolidated fine to coarse sand and gravel. A deep clay layer which has 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) and serves to limit the vertical extent of affected groundwater. Soil boring data show that this second clay layer is continuous across the study area. In the area northeast of the site, a sand unit is observed within the surficial clay. Perched groundwater is present in this sand unit. The perched groundwater is not hydraulically connected to the site. East of the site, an intermediate clay layer which bifurcates the affected aquifer is observed (Cross Sections A-A' and C-C' on Figures 4 and 5).

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 River Raisin. The deep clay unit represents a significant confining layer for vertical groundwater movement into deeper aquifers.

Groundwater elevation data are collected semi-annually. A groundwater contour map, developed using elevation data from the most recent sampling event, May 2015, is included as Figure 3. 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 June 2015 groundwater elevation data. Data from *in situ* hydraulic conductivity tests performed on monitoring wells screened in the unconfined sand and gravel aquifer were used to calculate a geometric mean hydraulic conductivity. The geometric mean hydraulic conductivity is 9.5×10^{-3} cm/s with an upper 95-percent confidence limit of 2.2×10^{-1} cm/s and a lower 95-percent confidence limit of 4.2×10^{-4} cm/s. Assuming an effective porosity of 0.3, the resultant estimated groundwater flow velocity is 3.2×10^{-5} cm/s (33 feet per year). The surface topography drops steeply downgradient of the site from an approximate elevation of 780 feet mean sea level (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; with this increase the groundwater flow velocity also increases east of the site.

The vertical hydraulic gradient in the upper sand/gravel aquifer is evaluated semi-annually at seventeen nested well pairs. Along the western (up gradient) portion of the site, the measured vertical hydraulic gradient is essentially neutral. Similarly, on-site nested well pairs also exhibit near neutral vertical gradients. Northeast of the site the hydraulic gradient varies from downward at well pairs MW-29s/d and MW-12s/d to near neutral at well pair MW-30s/d. East of the site a downward hydraulic gradient is observed, 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. At well pair MW-40s/d, near the river, the vertical gradient returns to near neutral. Throughout the duration of the project, these vertical gradients between well pairs has been consistent and stable.

2.3.2 Summary of Geologic Data Collected in 2015

Between April 27, 2015 and June 9, 2015, TRC completed a high resolution site characterization (HRSC) investigation as described in the April 2015 revision of the *MIP Investigation Report and Workplan for High Resolution Site Characterization* (HRSC Workplan).

These investigation activities included documentation of site geology throughout the study area, specifically:

- Thirty off-site soil borings (B-70 through B-89, B-91 through B-98, B-106 and B-107) and one on-site boring (B-90) were completed for vertical profile sampling. At each of these locations, soils were sampled continuously for Unified Soil Classification System (USCS) soil classification to a total depth of at least 5 feet below the top of the clay confining unit (unless prevented by limitations in sampling equipment)[4].
- Twenty-four additional soil borings completed at MIP confirmation sample locations are described in the HRSC Workplan. At 13 of these locations (SB-MIP-05, SB-MIP-23, SB-MIP-25, SB-MIP-30, SB-MIP-35, SB-MIP-38, SB-MIP-40, SB-MIP-41, SB-MIP-44, SB-MIP-46, SB-MIP-50, SB-MIP-55, and SB-MIP-64), soils were sampled continuously for USCS soil classification through the vadose zone, through the lower portion of the affected aquifer, and at least 5 feet into clay confining unit.[4]
- Additionally, TRC completed a survey at each investigation location to document the boring location and surface elevation.

Soil boring data were documented in soil boring logs provided to the United States Environmental Protection Agency (USEPA) on July 31, 2015.

2.3.3 Interpretation and Modeling of Geologic Data

Geology and survey data collected during 2015 HRSC investigation activities were used to update previously prepared input files for Environmental Visualization System (EVS) Software. These input files include:

- **Aerial photo:** An aerial photo of the study area is used to provide tangible reference points for the modeled data.
- **Investigation locations:** An input file with x, y, and z coordinates for all investigation locations. The z-coordinate is the surface elevation. Geology data described below were assigned depths relative to that surface elevation.
- **Geology data:** For each boring where USCS soil classification was completed, an input file with soil type as a function of depth was created.
- **Groundwater elevation data:** An input file defining the groundwater contours, as illustrated on the Second Quarter 2015 Groundwater Contour Map, was created.

[4] Where the underlying clay unit was encountered above 750 ft MSL, the boring depth was extended to a minimum depth corresponding to an elevation of 750 ft MSL in order to ensure the clay unit encountered was the in fact the underlying clay confining unit, not a discontinuous intermediate clay layer.

Using these input files, the EVS Software was used interpolate between data points (i.e., Krig data)[5]. Specifically, site geology data were Kriged to create a surfaces which define the interfaces between the various soil types, and groundwater contour lines from the Second Quarter 2015 Groundwater Contour Map (Figure 3) were Kriged to define the top of the aquifer. A series of cuts through the model area were made to facilitate viewing the Kriged data. These cuts were used to create a three dimensional (3-D) fence diagram of the study area onto which the water table surface (illustrated as a translucent blue sheet) was overlain. This output file was used to generate the interactive pdf file included as Appendix A. The EVS Software was also used to support the preparation of geologic cross sections. Figure 3 is the cross section location map. Figure 4 includes Cross Sections A-A' and B-B', and Figure 5 includes Cross Sections C-C' and D-D'. Cross Section A-A' extends from the northern portion of the site, in the direction of groundwater flow through the area of highest CVOC mass in groundwater in the north. Section B-B' extends from west to east along the northern, downgradient perimeter of the site, essentially illustrating CVOC mass distribution at the northern property line. Cross Section C-C' extends from the southern portion of the site, in the direction of groundwater flow through the area of highest CVOC mass in groundwater in the south. Cross Section D-D' extends from north to south along the eastern, downgradient perimeter of the site, essentially illustrating the CVOC mass distribution at the eastern property line. Additionally EVS Software model outputs were used to prepare an updated figure illustrating the elevation of the top of the clay confining unit (Figure 6) and to illustrate the thickness of the low permeability surficial silty/sandy clay unit (Figure 7).

2.3.4 Summary of 2015 Geologic Findings

The 2015 HRSC investigation activities and the subsequent data interpretation and modeling served to refine and clarify the previously reported geologic findings. The 2015 geologic findings are summarized below.

– The underlying clay confining unit was confirmed to be present at all of the investigation locations described in Subsection 2.3.2 above, with the following exceptions. At soil borings B-97, B-106, and B-107 the limits of the drilling equipment (typically approximately 50 feet) were reached prior to confirming the presence of the underlying clay confining unit. Based on the soil boring log for

[5] Kriging or Gaussian process regression is a method of interpolation that, under suitable assumptions, can provide linear unbiased predictions of intermediate values between data points. As with all modeling software, data interpolation is affected by boundary conditions. Poorly defined conditions along the perimeter of the modeled area may cause anomalies in the interpolated data in those areas.

monitoring well MW-29d, the clay confining unit is approximately 63.5 ft bgs in this area.

- Where encountered, the underlying clay confining unit was confirmed to have a minimum thickness of 5 feet at all locations with the following exceptions.
    - At soil boring SB-MIP-64 clay was encountered from 45.25 to 50 ft bgs (4.75 feet). The boring was terminated at 50 ft bgs due to the limitations of the drilling equipment.
    - At soil boring B-88 a clay unit was encountered from 49.75 to 52.5 feet (2.75 feet). Sand was present from 52.5 to 55 ft bgs. Note that this boring is located along the side gradient perimeter of the plume. No constituents of concern (COCs) were detected near the clay interface. During drilling activities, the borehole was grouted to prevent the potential creation of a preferential pathway through the clay confining unit.
    - At soil boring B-77 a clay unit (45 to 46.25 ft bgs) underlain by a clay interbedded with poorly graded sand (46.25 to 49.5 ft bgs) was encountered at depth. This boring is located near the side gradient perimeter of the plume. Vinyl chloride was detected (7.6 micrograms per liter [µg/L]) immediately above the clay at this location. During drilling activities, the borehole was grouted to prevent the potential for creation of a preferential pathway through the clay confining unit. Collectively these units provide a 4.5 foot thick vertical barrier to downward contaminant transport. The elevation of the clay unit at this location corresponds to the elevation of the clay unit at adjacent borings. Although thinner than in other areas, the underlying clay unit is laterally contiguous throughout the area of affected groundwater as illustrated in Appendix A.
- As illustrated on Figure 6, the elevation of the underlying clay confining unit ranges from approximately 730 ft MSL to 765 ft MSL.
- As previously documented, relative lows in this clay surface are in the far northeast of the study area near monitoring wells MW-29s/d and in the far southeast of the study area near monitoring wells MW-40s/d.
- As previously shown, relative highs in the clay surface elevation (approximately 760 to 765 ft MSL) extend from the central portion of the site (near monitoring well MW-37s) northeast to monitoring wells MW-10s/d. Geologic data collected during the HRSC investigation indicate that this relative high in the clay surface elevation extends further north than previously shown to include monitoring well MW-23 and soil borings B-91 and B-92. This peak in the underlying clay surface, in combination with the presence of an intermediate clay unit described below, restricts groundwater flow in the easterly direction. Both groundwater chemistry data and groundwater elevation data (from previously installed monitoring wells) indicate

that groundwater flow from the northern portion of the site is to the north-northeast from Patterson Street to Maumee Street. Beyond Maumee Street (south of Pottawatamie Street) flow is redirected to the east, following the path of least resistance to the River Raisin.[6]

- A similar peak in the underlying clay surface is not observed east of the southern portion of the site. Both groundwater chemistry data and groundwater elevation data indicate that groundwater in this area appears to follow a nearly straight line path from west to east.
- Overall groundwater from the southern portion of the site flows from west to east (Figure 3). Normal physical processes will cause COCs to be dispersed laterally as they migrate downgradient. In a uniform flow regime, cross gradient dispersion will be equal in both directions. However, chemistry data suggest that the shape of the clay surface may have resulted in differential lateral dispersion at depth. As documented previously, TCE is present in the upper portion of the underlying clay at soil boring SB-MIP-03, indicating the presence of a historical source (subsequent investigation found this area to be laterally isolated and current groundwater concentrations are NOT indicative of residual parent product). Elevated concentrations of COCs, particularly degradation products at depth in soil boring B-80 and monitoring well MW-20d along the downgradient perimeter of the site indicate that deep groundwater flow may be routed preferentially through the slight dip in the clay surface between soil borings B-81 and B-98 (illustrated on Figure 5, Cross Section D-D'). From soil boring B-80 groundwater flow at depth follows the path of least resistance to the River Raisin, north of monitoring well MW-14d.
- The laterally discontinuous intermediate clay layer previously observed at monitoring wells MW-29d, MW-30d, MW-22, MW-38d, MW-31 , MW-14d, MW-27d and MW-40d was observed at 7 of the borings completed in 2015: B-92, B-93, B-94, B-96 B-97, B-106, B-107, e.g., all of the borings in the northeast area located along Wyandotte Street or further east except soil boring B-91. This clay unit is illustrated on Cross-Section A-A' (Figure 4).
- This intermediate clay unit which is present between 766 ft MSL and 773 ft MSL has a thickness of 0.5 to 4.5 feet in this area. Between soil boring B-95 and monitoring wells MW-10s/d the elevation of the top of the underlying deep clay confining unit ranges from approximately 760 to 765 ft MSL, and the water table has an elevation of approximately 776 ft MSL. Collectively these features result in a vertically narrow permeable saturated zone, further explaining why groundwater flow from the

[6] Note that the River Raisin is dammed just north of East Chicago Boulevard. The surface water impoundment created by this dam is expected to be a significant groundwater recharge feature. This groundwater recharge is expected to produce a hydraulic impediment to flow further to the north.

northern portion of the site does not follow a straight line path to the River Raisin, but is diverted to the north first as described above.

- Northeast of the site near surface soils are predominately silty/sandy clay. This unit is bisected by a silty sand/sand unit. As illustrated on Figure 7, the depth of the surficial silty/sandy clay unit is greater than 8 feet below ground surface from soil borings B-73 and B-75 along Cummins Street to the northeast. A review of the 17 soil boring logs from borings completed in this area in 2015, confirms the EVS model output. At most of these locations, a perched groundwater unit was observed a depths ranging from 5 to 8 feet below ground surface, further supporting the continuity of this silty/sandy clay unit.
- The elevation of the perched groundwater unit ranges from approximately 785 ft MSL along Maumee Street to approximately 781 ft MSL along Wyandotte Street. These elevations verify that this perched groundwater is not hydraulically connected to the affected aquifer. (The lower groundwater elevations of the affected aquifer are illustrated on Figure 3).

Section 3
MIP Confirmation Sampling

3.1 Introduction

The membrane interface probe (MIP) investigation completed at the former Tecumseh Products Company (TPC) site in Tecumseh, Michigan between June 17 and July 24, 2014, is described in detail in *MIP Investigation Report and Workplan for High Resolution Site Characterization* (HRSC Workplan). A total of 68 MIP investigation borings were completed (Figure 8). MIP results were evaluated and interpreted as described in Section 3 of the HRSC Workplan. However, these MIP response data are semi-quantitative. MIP confirmation sampling was completed to develop a correlation between MIP response and volatile organic compound (VOC) concentrations. To that end, confirmation sample locations and depth intervals were selected to target a broad range of electron capture detector (ECD) peak heights. Locations with high ECD response offer the most insight into an improved understanding of potential dense non-aqueous phase liquid (DNAPL) residuals. Therefore, the sample selection was biased to include a greater percentage of those peak locations. Confirmation sample locations are highlighted pink on Figure 8.

3.2 Summary of Field Activities Related to Confirmation Sampling

MIP confirmation sampling was completed between May 18, 2015 and June 2, 2015 at 24 locations as described in the HRSC Workplan to help correlate soil/groundwater concentrations with MIP response. MIP confirmation sample locations were designated with an "SB" followed by the MIP boring number, e.g. SB-MIP-23 to distinguish between the original MIP boring and the confirmation boring. At each confirmation boring location the following was completed:

- Visual classification as specified in the HRSC Workplan;
- Field screening of unsaturated soils with a photoionization detector (PID);
- Collection of soil samples from depths specified in the HRSC Workplan[7];
- Installation of temporary wells having a 3-foot screened interval at depths specified in the HRSC Workplan;[7]
- Temporary wells were developed prior to sampling by purging until turbidity had stabilized; and

[7] As allowed by the HRSC Workplan, a small number of adjustments were made to the sample intervals based on field conditions encountered.

- Samples were collected at each temporary well location using low-flow techniques and analyzed for total VOCs to fully characterize the vertical concentration profile of the saturated unit.

3.3 Data Evaluation

A summary of detected VOCs at soil sample locations, including MIP confirmation sample locations is provided in Table 1. A summary of detected VOCs at on-site groundwater sample locations, including MIP confirmation sample locations, is provided in Table 2. Raw data (e.g., database files containing MIP response data and chemistry data) were provided to the United States Environmental Protection Agency (USEPA) previously.

The MIP ECD responds most strongly to parent chlorinated compounds. Therefore, concentration data were plotted as a function of ECD response data. For comparison purposes the following comparisons were evaluated:

- The summed concentration of all parent products (tetrachloroethene [PCE], trichloroethene [TCE] and 1,1,1-trichloroetane [TCA]) versus the average ECD response over the sampled depth interval,
- The summed concentration of all parent products (PCE, TCE and TCA) versus the maximum ECD response over the sampled depth interval,
- The TCE concentration versus the average ECD response over the sampled depth interval,[8] and
- The TCE concentration versus the maximum ECD response over the sampled depth interval.

Because the sample matrix affects how concentration data are reported, comparisons were completed separately for soil and groundwater data. Correlation coefficients were compared to determine which of these functions provided the best fit.

- Comparisons to maximum ECD response data provided a slightly better fit than comparisons to average ECD response. Therefore maximum ECD response was selected to predict concentrations of parent compounds at MIP locations where confirmation sampling was not completed.
- Correlations developed using all of the parent compounds were similar to those developed using TCE only. Prediction of a TCE concentration was selected over prediction of a summed concentration of all parent products for two reasons:

[8] TCE is the predominant constituent of concern over the large majority of the site and as such is assumed to be the primary source of ECD response at most locations.

– TCE has the highest toxicity of the parent compounds. This comparison intrinsically assumes that the total ECD response is due to TCE, thus predicted concentrations are conservative; and

– TCE concentrations are usable and comparable to site data and risk-based criteria, whereas a concentration of total parent compounds is not.

Chart 1 illustrates the relationship between the maximum ECD response observed over the sample interval and the associated concentration of TCE in groundwater. Considerable variability was observed. To account for this variability, a linear correlation representing the 90th percentile maximum value was developed, as 90 percent of the TCE concentrations predicted from ECD response data using this correlation are expected to be at or above the actual TCE concentration. Using this 90th percentile maximum value correlation, TCE concentrations were assigned throughout the saturated zone at MIP locations where confirmation sampling was not completed. Depth intervals were selected based on observed ECD response. In areas where ECD response was relatively constant, depth intervals are larger. In areas where ECD response is variable, depth intervals are shorter to account for this variability. The selected depth intervals and the predicted TCE concentrations through these depth intervals (based on the linear 90th percentile maximum value correlation) are provided in Table 3. These concentrations were included in the development of three dimensional (3-D) visualizations and other outputs from the Environmental Visualization System (EVS) Software.

Chart 2 illustrates the relationship between the maximum ECD response observed over the sample interval and the associated concentration of TCE in soil. The correlation between ECD response and soil concentrations is very poor. Consequently, these data were not used to assign concentration data to MIP locations where soil samples were not collected.

3.4 Soil Chemistry Data

As noted above, ECD response is poorly correlated to measured VOC data at soil sample locations. However, approximately 100 soil samples were collected and analyzed through known or suspected source areas. These data which area summarized in Table 1, indicate the following:

- As noted previously, TCE is ubiquitous in soil samples collected beneath the manufacturing building slab. TCE was detected in all of the samples collected from the vadose zone with the following exceptions: SB-MIP-35 (1-2') and SB-MIP-35 (2-3').
- TCE concentrations in the vadose zone are typically less than 10 milligrams per kilogram (mg/kg), well below concentrations indicative of free product. Locations with TCE concentrations above 10 mg/kg include SB-MIP-03 from 19 to 21 feet below ground surface (ft bgs) (up to 20 mg/kg), SB-MIP-03 from 47 to 48 ft bgs (52 mg/kg), SB-MIP-25 from 47.5-48.5 ft bgs (35 mg/kg), SB-MIP-40 from 12 to 23 ft bgs (12 to 29 mg/kg), SB-MIP-44 from 4.5 to 5.5 ft bgs (80 mg/kg), and SB-MIP-46 from 0.5 to 1.5 ft bgs (58 mg/kg).

- Soil samples were collected from the top of the underlying clay confining unit at six locations. At three of these locations (SB-MIP-05, SB-MIP-23, and SB-MIP-50), TCE was not detected. At the remaining three locations, neither soil concentrations at the top of the clay confining unit nor groundwater concentrations immediately above this unit are indicative of free product residuals. As outlined below:
  - At SB-MIP-03 a TCE concentration of 52 mg/kg is observed at the top of the clay confining unit. The TCE concentration in groundwater immediately above this clay is 240 micrograms per liter (µg/L).
  - At SB-MIP-25 a TCE concentration of 35 mg/kg is observed at the top of the clay confining unit. The TCE concentration in groundwater immediately above this clay is 210 µg/L.
  - At SB-MIP-30 a TCE concentration of 0.73 mg/kg is observed at the top of the clay confining unit. The TCE concentration in groundwater immediately above this clay (43-46 ft bgs) is 1000 µg/L (concentrations range from 970 µg/L to 1,500 µg/L from 34 to 46 ft bgs at this location).

3.5 Groundwater Chemistry Data

Groundwater chemistry data, including correlated MIP response data, were evaluated holistically with data from vertical profile sampling. This data evaluation is provided in Section 4.

Section 4
Groundwater Plume Characterization

4.1 Background

In September 2013, the *Supplement to the Current Human Exposures Under Control Environmental Indicator Report* was submitted for the former Tecumseh Products Company (TPC) site in Tecumseh, Michigan. The United States Environmental Protection Agency (USEPA) provided a response to that submittal on January 31, 2014. A *Scope of Work to Accommodate the USEPA Comment Letter Dated January 31, 2014 Regarding the Human Exposure Environmental Indicator Report* (SOW) was submitted on March 27, 2014, and USEPA met with TPC and TRC on May 12, 2014 to discuss the January 31, 2014 comment letter and the SOW. As outlined in the SOW, USEPA comments/requests can be broadly summarized as follows:

- Further **source area characterization** to verify the horizontal and vertical distribution of constituents of concern (COCs), including installation of additional monitoring wells, as appropriate, in areas of highest contamination;
- Further **contaminant plume characterization** to verify the horizontal and vertical distribution of COCs in groundwater, including installation of additional monitoring wells, as appropriate, in areas of highest contamination; and
- Further evaluation of the potential vapor intrusion migration pathway.

The 2014 membrane interface probe (MIP), subsequent MIP confirmation sampling, and downgradient groundwater profile sampling were completed to verify the horizontal and vertical extent of the contaminant plume and to help determine the aerial extent over which further evaluation of the potential vapor intrusion pathway may be appropriate. Data collected during the 2014 MIP investigation are described in detail in *MIP Investigation Report and Workplan for High Resolution Site Characterization* (HRSC Workplan). MIP confirmation sampling activities including development of a correlation between MIP response and groundwater concentrations and an assessment of soil chemistry data are provided in Section 3 of this Report. Section 4 summarizes field activities associated with the 2015 groundwater profile sampling, describes data interpretation and modeling efforts, and provides a summary of findings associated with the groundwater chemistry data collected.

4.2 Summary of Field Activities Related to Vertical Groundwater Profile Sampling

Groundwater profile sampling activities were completed in general accordance with the HRSC Workplan. The HRSC Workplan accommodated a dynamic investigation/sampling program. Samples collected were analyzed at an on-site mobile laboratory so that decisions could be

made regarding step-out locations prior to the completion of investigation activities. These groundwater profile sampling activities are outlined below:

- At 30 off-site boring locations (B-70 through B-89, B-91 through B-98, B-106 and B-107) and one on-site boring location (B-90) sampling activities were completed, as described in the HRSC Workplan and summarized below, to refine the horizontal and vertical distribution of the groundwater contaminant plume.
  - Visual classification of soils to at least 5 feet below the top of the clay confining unit (unless prevented by limitations in sampling equipment as described in Section 2);
  - Field screening of soils with a photoionization detector (PID);
  - Installation of temporary wells having a 3-foot screened interval throughout the water column;
  - Temporary wells were developed prior to sampling by purging until turbidity had stabilized; and
  - Samples were collected at each temporary well location using low-flow techniques[9] and analyzed for total volatile organic compounds (VOCs) to fully characterize the vertical concentration profile of the saturated unit.
- At seven step-out locations where the geology was previously well defined, modified groundwater profile sampling was completed as summarized below. These sampling locations included one boring location in the right-of-way (B-103) and six on-site locations (B-99, B-100, B-101, B-102, B-104 and B-105).
  - Blind drill to target depth;
  - Installation of a temporary well having a 3-foot screened interval at the target depth; and
  - Temporary wells were developed, sampled, and analyzed for VOCs as described above.

4.3 Interpretation and Modeling of Groundwater Chemistry Data

Chemistry data for the project are managed in a Microsoft™ Access database. This database was updated to include groundwater chemistry data collected during 2015 HRSC investigation activities and estimated groundwater concentrations predicted from MIP response data. This database was used to prepare model input files for Environmental Visualization System (EVS)

[9] A small number of samples were collected with a bailer due to the inability of the peristaltic pump to overcome the head difference caused by a deep (typically >28 feet) water table and/or heavy/highly turbid groundwater. Samples collected with a bailer include: B-86 (28.5-31.5'), B-86 (31-34'), B-86 (33.5-36.5'), B-86 (36-39'), B-97 (46.5-49.5'), B-97 (49-52'), B-103 (29.5-32.5'), B-103 (32.5-35.5'), and B-103 (35.5-38.5'). These samples were not stabilized for turbidity.

Software. EVS is a dynamic modeling tool that provides 3-D visualization of chemistry and geologic data to support groundwater studies and corrective measures. Based on preliminary review of groundwater chemistry data, chlorinated ethenes were targeted for further data evaluation, specifically tetrachloroethene, (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE) and vinyl chloride. Although other VOCs are detected in groundwater these compounds represent the bulk of the contaminant mass. Moreover, risk values associated with these compounds, particularly TCE and vinyl chloride, are expected to drive decision making related to final corrective measures. As such, EVS input files were prepared, which included:

- **Survey Data:** An input file with x, y, and z coordinates for all boring locations. The z-coordinate is the surface elevation. Sample depths, as described below, were assigned a depth relative to that surface elevation.
- **Sample Location:** An input file was prepared defining boring location (to serve as a reference to the survey data), sample type (e.g., soil, groundwater, MIP), investigation location type (monitoring well, grab sample, etc.), and sample depth (corresponding to the middle of the screened interval).
- **Groundwater Elevation Data:** As described in Section 2, an input file defining the groundwater contours, as illustrated on the Second Quarter 2015 Groundwater Contour Map, was created. This input file was used to define the top of the aquifer.
- **PCE, TCE, cis-DCE and Vinyl Chloride Concentration Data:** The input file included all groundwater data collected to date in micrograms per liter (µg/L), including Phase II data collected in 2008 by ATC. This file also included the correlated MIP data provided in Table 3.[10,11]
- **Total Chlorinated Ethene Concentration Data:** Concentration data in units of µg/L for individual compounds are useful for comparison to risk-based criteria and screening values. However, because the mass of each compound is different, mass based concentration units are less useful when evaluating the total contaminant plume, particularly with regard to degradation. As such, PCE, TCE, cis-DCE and vinyl chloride concentrations were converted to molarity and summed, and an input file containing these data was prepared.

[10] The EVS Software cannot be used to manage non-detect values directly. When preparing the input files, non-detect values less than 10 µg/L (i.e., results from <1 µg/L to <10 µg/L) were assigned a value of 1 µg/L. If the detection limit was higher than 10 µg/L (e.g., <100 µg/L, etc.), a concentration value for that parameter was not assigned at that location, allowing the model to interpolate without potential bias.
[11] For sample locations with multiple sampling events, the most recent sampling event, as of September 2015, was queried and used in the EVS input file.

Using these input files, the EVS Software was used to interpolate between data points (i.e., Krig data)[12]. Specifically, chemistry data for each compound were Kriged to create three dimensional (3-D) visualizations of the contaminate body.

For each compound, isovolumes (3-D visualizations of the plume above a specific concentration value) were prepared for applicable Michigan 201 criteria (e.g. drinking water and groundwater-surface water interface criteria). Additionally, isovolumes were prepared for a high intermediate concentration to better visualize the core of the most affected area. For PCE, TCE, and cis-DCE a concentration of 2000 µg/L was used, and for vinyl chloride a concentration of 200 µg/L was used. For TCE and vinyl chloride an additional high-high concentration was selected corresponding to concentrations potentially relevant to risk assessment and final corrective measures (1 percent of solubility for TCE [11,000 µg/L] and the Michigan Part 201 groundwater contact criterion for vinyl chloride prior to the 2013 [1,000 µg/L])[13]. After Kriging was complete, isovolumes were cut along the Kriged water table surface.[14] These isovolumes were used to prepare output files to support the preparation of isoconcentration maps. The lateral distribution of PCE is illustrated on Figure 9. The lateral distribution of TCE is illustrated on Figure 10. The lateral distribution of cis-DCE is illustrated on Figure 11, and the lateral distribution of vinyl chloride is illustrated on Figure 12.

Isovolumes were also prepared for total chlorinated ethenes. These output files were used to prepare a figure illustrating the lateral distribution total chlorinated ethenes (Figure 13). Additionally, these output files were used to add chemistry data to the cross sections. Figure 3 is the cross section location map. Figure 4 includes Cross Sections A-A' and B-B', and Figure 5 includes Cross Sections C-C' and D-D'. Cross Section A-A' extends from the northern portion of the site, in the direction of groundwater flow through the area of most highly impacted groundwater in the north. Cross Section B-B' extends from west to east along the northern, downgradient perimeter of the site. Cross Section C-C' extends from the southern portion of the site, in the direction of groundwater flow through the area of most highly impacted groundwater in the south. Cross Section D-D' extends from north to south along the eastern, downgradient perimeter of the site.

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[12] Kriging or Gaussian process regression is a method of interpolation that, under suitable assumptions, can provide linear unbiased predictions of intermediate values between data points. As with all modeling software, data interpolation is affected by boundary conditions. Poorly defined conditions along the perimeter of the modeled area may cause anomalies in the interpolated data in those areas.
[13] Groundwater contact criteria were eliminated from the Part 201 criteria tables in 2013.
[14] Kriging is a three dimensional process. The EVS Software does not readily account for physical constraints (e.g., the water table) and processes (e.g., groundwater flow direction) when interpolating between data points.

Visualizations of lateral extent of each compound above Michigan groundwater screening levels for vapor intrusion (GWSLs) were also prepared to help evaluate areas meriting further evaluation of the vapor intrusion pathway. Collectively, these model outputs were used to prepare Figure 15, which illustrates the lateral extent of VOCs above residential and non-residential GWSLs in shallow groundwater.

4.4 Summary of 2015 Groundwater Chemistry Findings

The primary constituents of concern for the site are VOCs, particularly chlorinated VOCs (CVOCs). Chlorinated ethenes, particularly PCE, TCE, cis-DCE and vinyl chloride, make up the bulk of the contaminant mass. Moreover, risk values associated with these compounds, particularly TCE and vinyl chloride, are expected to drive decision making related to final corrective measures.

Industrial solvents composed largely of TCE, such as those used for machining and degreasing operations, were used throughout the building footprint. Although TCE is present in groundwater above Michigan Part 201 criteria through the vast majority of the site, two general areas of relatively high TCE concentrations were identified prior to 2015 – the northern source area and the southern source area. Groundwater chemistry data are summarized in Table 2 (on-site sample locations), Table 3 (correlated MIP results) and Table 4 (perimeter and off-site sample locations).

4.4.1 Northern Source Area and Associated Downgradient Plume

The northern source area was the primary area used for machining and degreasing activities prior to the mid-1900s, when TCE was commonly used as a solvent. This area includes a former chemical stockroom from which chemicals (including TCE-based solvents) were distributed for use in machining processes. No significant point source has been identified in this area, rather the bulk of contamination appears to be due to incidental use and spillage during regular operations. Chemical use and incidental spillage in this area was not restricted to TCE. The co-deposition of other carbon-rich compounds (e.g. cutting oils, etc.) has provided a food source which supports reductive dechlorination. COCs associated with the northern source area extend to the northeast in the direction of groundwater flow. The presence of degradation products (cis-DCE and vinyl chloride) on-site and downgradient are indicative of robust reductive dechlorination throughout this area. Findings of the 2015 HRSC investigation and associated refinements to the conceptual site model related to the northern source area and associated groundwater plume are outlined below.

– Robust reductive dechlorination is observed through the northern contaminant plume. The highest concentrations of the parent product (TCE) are observed on-site and along the northern perimeter of the site (Figure 10). Along the downgradient

perimeter of the site (Patterson Street), the bulk of the contaminant mass is TCE and to a lesser degree cis-DCE (Figures 10 and 11). Along Cummins Street the bulk of the contaminant plume is composed of cis-DCE, and to a lesser degree TCE and vinyl chloride (Figures 10, 11 and 12). Along Maumee Street, north of Cummins Street, the bulk of the contaminant mass is present as vinyl chloride with only low level detections of cis-DCE (Figures 11 and 12). Further downgradient along Wyandotte Street and beyond, only vinyl chloride is detected (Figure 12).

- The bulk of the on-site contaminant mass is present as TCE. Although PCE is also a potential parent product, PCE is detected only in isolated areas at relatively low concentrations (up to 30 μg/L) (Figure 9).
- PCE was detected at a concentration of 11 μg/L in the sample collected at the water table from soil boring B-85, located 1,800 feet northeast of the site. PCE was NOT detected at any soil boring locations north of the Patterson Street right-of-way between the site and the northern source area. As documented in the July 31, 2015 Supplement to Remedial Investigation and Environmental Indicator Report, this PCE may be attributed to a former dry cleaner located along East Chicago Boulevard, east of soil boring B-85 (Figure 9).
- The lateral distribution of TCE is illustrated on Figure 10. The highest concentration of TCE (12,000 μg/L) was observed at SB-MIP-57 from 21 to 24 feet below ground surface (ft bgs) (771 to 768 feet mean sea level [ft MSL]) approximately 6 feet below the water table. This is the only sample in which TCE was detected above 1 percent of solubility (11,000 μg/L).
- Elevated TCE concentrations can be tracked from SB-MIP-57 up gradient to SB-MIP-38 (up to 9,100 μg/L TCE).
- On-site TCE concentrations are typically highest in the upper portion of the aquifer (2 to 12 feet below the water table).
- In the lower half of the aquifer, concentrations typically decrease with depth on-site.
- Concentrations at depth are not indicative of residual DNAPL.
- In the vicinity of the former chemical stockroom (SB-MIP-40, SB-MIP-41, SB-MIP-44) concentrations of TCE are comparably low (<1,000 μg/L) and degradation products make up a greater portion of the contaminant mass.
- As described in Section 2, site geology, particularly relative highs in the underlying clay surface elevation and the presence of an intermediate clay layer, restricts groundwater flow in the easterly direction from the northern source area. Both groundwater chemistry data and groundwater elevation data (from previously installed monitoring wells) indicate that groundwater flow from the northern portion of the site is to the north-northeast from Patterson Street to Maumee Street. Beyond Maumee Street (south of Pottawatamie Street) flow is redirected to the east, following the path of least resistance to the River Raisin.

- The highest concentrations of cis-DCE (Figure 11) extend downgradient to Cummins Street from the area of highest TCE contamination (Figure 10).
- The highest concentrations of vinyl chloride (Figure 12) extend downgradient from the downgradient edge of highest concentrations of cis-DCE (Figure 11) near the corner of Cummins Street and Maumee Street downgradient to the corner of Maumee Street and Kilbuck Street.
- Downgradient of the site the highest concentrations of COCs are typically below the water table.
- The lateral distribution of the total contaminant plume is illustrated on Figure 13. Through dispersion and degradation the contaminant mass is depleted downgradient of the site.
- Concentrations of COCs do not exceed drinking water criteria beyond the limits of the area of restricted groundwater use (Figure 14).
- Concentrations of COCs do not exceed groundwater surface water interface (GSI) criteria adjacent to the River Raisin in the associated surface water features (Figure 14).
- Concentrations of COCs in shallow groundwater exceed MDEQ GWSLs in the northern source area and north-northeast to Cummins Street as illustrated on Figure 15.
- At soil borings B-71 (23.5-29.5 ft bgs), B-72 (22.5-34.5 ft bgs), and B-73 (26-29 ft bgs) vinyl chloride concentrations exceed the groundwater contact criterion (1,000 µg/L) (Figure 14). The depth of these exceedences is well below the depths at which a typical utility or construction worker is expected to be exposed to groundwater.

4.4.2 Southern Source Area and Associated Downgradient Plume

The previously defined southern source area is located in the vicinity of a former distillation solvent recovery system. Despite the presence of a likely point source, passive soil gas (PSG) survey results indicate that at least a portion of the contaminant mass in this area is due to incidental use and spillage beyond the immediate vicinity of the distillation system. Unlike the northern portion of the site, the southern source area is not characterized by the co-deposition of other carbon-rich compounds. COCs associated with the southern source area extend to the east in the direction of groundwater flow. Due to the absence of other carbon-rich compounds, reductive dechlorination is less robust than in the northern areas of the site, and TCE persists in groundwater much farther downgradient of the site (approximately 1,800 ft). In 2011, a permeable reactive barrier (PRB) was installed along the site perimeter downgradient of the southern source area to facilitate reductive dechlorination. The organic substrate in the PRB was successful in creating reducing conditions within the PRB and

downgradient of the PRB, indicating the presence of reducing bacteria essential for reductive dechlorination are present.

Findings of the 2015 HRSC investigation and associated refinements to the conceptual site model related to the southern source area and associated groundwater plume are outlined below.

- The bulk of the contaminant mass beneath the building footprint is present as TCE. Within the building footprint, PCE is detected only in isolated areas at relatively low concentrations (up to 120 μg/L) (Figure 9).
- The 2015 HRSC investigation identified a PCE source area within the previously documented area of affected groundwater near the southern perimeter of the site. At soil boring B-100, PCE concentrations as high as 32,000 μg/L were measured. As illustrated on Figure 9, PCE concentrations decrease rapidly side gradient (north/south) and up gradient (west) of boring location B-100. As indicated by elevated PCE concentrations at boring location B-81, groundwater downgradient of this area has been affected. PCE concentrations in this area exceed 1 percent of solubility (2,000 μg/L). This area has been targeted for a focused investigation to more precisely define the volume of soil and groundwater requiring treatment.
- PCE is degraded to TCE, DCE and vinyl chloride. The highest concentrations of TCE in the southern plume (8,900 μg/L) are observed at soil boring B-81 downgradient of the PCE source area. Further downgradient along Mohawk Street and beyond, PCE has not been detected.
- With the exception of the PCE source area described above, HRSC investigation activities have not identified a significant source area outside the building footprint.
- TCE concentrations beneath the building footprint indicate that concentrations in the TCE source area are stable or decreasing as the residual mass is depleted. TCE concentrations increase in the downgradient direction from soil boring B-90 (up to 2,400 μg/L), to monitoring well MW-35I (up to 5,100 μg/L) to soil boring SB-MIP-49 (up to 5,400 μg/L). These data show that although the upgradient source of TCE may be somewhat depleted, TCE persists beyond this source area (Figure 10).
- On-site TCE concentrations are typically highest in the upper portion of the aquifer from the water table to approximately 12 feet below the water table. A second, lower, peak in TCE concentrations is observed in deep intermediate aquifer at several locations (B-90, SB-MIP-23 and SB-MIP-30).
- In the lower half of the aquifer, concentrations typically decrease in proximity to the underlying clay. As described in Section 3.4, TCE is detected in the underlying clay at soil borings SB-MIP-03 and SB-MIP-25. Diffusion from the clay to the overlying groundwater results in a modest increase in TCE concentrations (up to 240 μg/L)

immediately above the clay at these locations. On site, the highest concentration of TCE at the underlying clay surface was observed at soil boring B-90 (1,500 µg/L).

- Concentrations at depth are not indicative of residual DNAPL.
- As described in Section 2, the relative high in the underlying clay surface elevation between monitoring wells MW-35i/d and soil boring SB-MIP-48, in conjunction with the relative low in the clay surface elevation between soil boring B-79 and B-80, likely affects the lateral distribution of TCE at depth, diverting flow slightly to the south.
- The PRB along Maumee Street has significantly reduced the mass of TCE migrating off-site in the shallow aquifer. Downgradient of the PCE source (near soil boring B-81) the effect of the PRB is apparent in the quantity of PCE degradation products when compared to water chemistry data at soil boring B-100. However, because the PRB was not designed to manage such high influent concentrations, reductive dechlorination is not complete.
- Downgradient of the site, the groundwater plume flows west to east toward the River Raisin. Site geology and hydrogeology serve to limit the lateral dispersion of COCs. In fact, the plume actually narrows towards the River Raisin due to the higher conductive sand and gravel deposits. Along Mohawk Street concentrations of TCE above 1,000 µg/L are observed at monitoring well MW-21 and soil borings B-86 and B-87. The highest concentrations are observed at B-86 (2,800 µg/L), yet approximately 200 feet to the south at monitoring well MW-14D and soil boring B-103 no COCs are detected.
- The highest concentrations of TCE essentially follow a straight line path from the PCE source area (B-100) through soil borings B-81 (8,900 µg/L) and B-86 (2,800 µg/L) to soil boring B-108 (1,200 µg/L).
- As illustrated on Figure 11, relatively low concentrations of cis-DCE are observed in the vicinity of the TCE source area. In this area, cis-DCE is present primarily in the deep aquifer where naturally reductive conditions (low dissolved oxygen) facilitate reductive dechlorination. Elevated concentrations of cis-DCE are also present in the shallow aquifer in the vicinity of PCE source area and the associated contaminant plume.
- The highest concentrations of cis-DCE at depth are observed at soil boring B-80 (up to 3,000 µg/L). These concentrations likely correspond to the depleted TCE source observed at soil borings SB-MIP-03 and SB-MIP-25 as described above.
- The increase in the cis-DCE concentration from soil boring B-86 to soil boring B-108 indicates that far downgradient of the site, reductive dechlorination is occurring and the total contaminant mass is being reduced.
- As illustrated on Figure 12, relatively low concentrations of vinyl chloride are observed in the vicinity of the TCE source area. In this area, vinyl chloride is present

primarily in the deep aquifer where naturally reductive conditions (low dissolved oxygen) facilitate reductive dechlorination. Relatively higher concentrations of vinyl chloride are present in the shallow aquifer in the vicinity of PCE source and the associated contaminant plume.

- The lateral distribution of the total contaminant plume is illustrated on Figure 13. Dispersion and degradation of the contaminant mass is limited downgradient of the site. As such, elevated concentration of COCs persist to the up gradient perimeter of the wetland area.
- Concentrations of COCs do not exceed drinking water criteria beyond the limits of the area of restricted groundwater use (Figure 14).
- Concentrations of COCs exceed generic groundwater surface water interface (GSI) criteria at one location (soil boring B-108) along the up gradient perimeter of the wetland area adjacent to the River Raisin (Figure 14).
- Concentrations of COCs in shallow groundwater exceed MDEQ GWSLs throughout the southern source area and east to soil boring B-108, as illustrated on Figure 15.
- At three soil borings in the vicinity of the PCE source area (B-81 [6.5 to 9.5 ft bgs], B-100 [10-13 ft bgs], and B-102 [11-14 ft bgs]) vinyl chloride concentrations exceed the groundwater contact criterion (1,000 µg/L) (Figure 14). These exceedences are expected to be addressed as part of the PCE source treatment.

Section 5
Summary and Next Steps

Between April 27, 2015 and June 9, 2015 MIP confirmation sampling and HRSC vertical profile sampling were completed in general accordance with the *MIP Investigation Report and Workplan for High Resolution Site Characterization* (HRSC Workplan). On July 31, 2015 final data were provided to USEPA including a figure showing investigation locations, tabulated soil and groundwater data, laboratory analytical reports, and soil boring logs.

Since that time, a comprehensive evaluation of the high resolution site characterization (HRSC) data collected during the April through June 2015 investigation activities was completed. Previous sections of this Report document methods for data interpretation and modeling, as well as refinements made to the conceptual site model to incorporate the findings of the 2015 HRSC investigation.

Environmental work for the site is ongoing. Proposed next steps are outlined below:

- In preparation for the upcoming Corrective Measures Proposal, complete an exposure pathway evaluation for both current and potential future receptors, including an assessment of vapor intrusion risk at individual properties within the area of shallow groundwater affected above groundwater screening levels for vapor intrusion.
- Complete targeted investigation activities to verify the completeness (or not) of potential exposure pathways. Currently, the following investigation activities are planned to be completed before the end of the year:
  - Further evaluation of the potential impact of groundwater discharge to surface water on ecological receptors in the vicinity of soil boring B-108. A technical memorandum outlining the proposed investigation/assessment is included as Appendix B.
  - Indoor air sampling at 805 S. Maumee Street, as discussed with USEPA on September 18, 2015, to verify the calculated building specific attenuation factor.

  Additional investigation activities may be completed to address other relevant and complete exposure pathways identified by the exposure pathway evaluation.
- Complete a focused investigation in the vicinity of the PCE source area (near soil boring B-100) to quantify the volume of soil and groundwater requiring treatment and support the development of a remedial strategy to treat this source area. A scope of work is in preparation. The proposed investigation activities are expected to be complete before the end of the year.
- Develop site-specific, risk-based remedial goals that are consistent with the exposure pathway evaluation.

- Revise the groundwater monitoring program, including the installation of new wells as appropriate. The objectives of the revised monitoring program are outlined below.
  - Monitor the potential for groundwater discharge to surface water;
  - Monitor the outer edge stability of the groundwater plume;
  - Monitor the internal variability of the groundwater plume;
  - Monitor the effectiveness of corrective measures in reducing concentrations in groundwater; and
  - Monitor concentrations in shallow groundwater in the area of potential vapor intrusion impacts.

  Proposed revisions to the groundwater monitoring program are summarized in Table 5. Proposed new well locations are illustrated on Figure 16. New wells will be installed once there is substantial agreement between USEPA and TPC on the revised monitoring program.
- The area over which soil gas monitoring is completed has been revised to be consistent with areas where the vapor intrusion pathway is complete. The soil gas sample points and the extent of volatile organic compounds in shallow groundwater above applicable groundwater screening levels for vapor intrusion are illustrated on Figure 15. The revised soil gas monitoring program is summarized in Table 6.
- Prepare and submit a Corrective Measures Proposal to address relevant and complete (or potentially complete) exposure pathways in January 2016.

Section 6
References

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Tables

Table 1
Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
B-58 (3-4')	4/1/2011	--	--	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	--	--	--	--	<0.059	<0.059	<0.059	<0.059	<0.059	--	--	<0.059	<0.18
B-58 (6-7')	4/1/2011	--	--	<0.055	<0.055	<0.055	<0.055	<0.055	<0.055	--	--	--	--	<0.055	<0.055	**0.12**	<0.055	**0.066**	--	--	<0.055	<0.17
B-59 (3-4')	4/1/2011	--	--	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	--	--	--	--	<0.057	<0.057	<0.057	<0.057	<0.057	--	--	<0.057	<0.17
B-59 (6-7')	4/1/2011	--	--	**0.18**	<0.055	<0.055	<0.055	<0.055	<0.055	--	--	--	--	<0.055	<0.055	**0.12**	<0.055	**0.067**	--	--	<0.055	<0.16
B-60 (3-4')	4/1/2011	--	--	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	--	--	--	--	<0.057	<0.057	<0.057	<0.057	<0.057	--	--	<0.057	<0.17
B-60 (6-7')	4/1/2011	--	--	**0.31**	<0.054	**0.26**	<0.054	<0.054	<0.054	--	--	--	--	<0.054	<0.054	**0.57**	<0.054	**0.30**	--	--	<0.054	<0.16
B-61 (3-4')	4/1/2011	--	--	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	--	--	--	--	<0.056	<0.056	**0.073**	<0.056	**0.071**	--	--	<0.056	<0.17
B-61 (6-7')	4/1/2011	--	--	**0.13**	<0.049	**0.052**	<0.049	<0.049	<0.049	--	--	--	--	<0.049	**0.18**	**0.39**	<0.049	**0.34**	--	--	<0.049	**0.43**
B-62 (1-2')	4/1/2011	--	--	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	--	--	--	--	<0.049	**0.14**	<0.049	<0.049	<0.049	--	--	<0.049	<0.15
B-62 (3-4')	4/1/2011	--	--	<0.055	<0.055	<0.055	<0.055	<0.055	<0.055	--	--	--	--	<0.055	<0.055	<0.055	<0.055	<0.055	--	--	<0.055	<0.16
B-63 (3-4')	4/1/2011	--	--	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	--	--	--	--	<0.051	<0.051	**0.21**	<0.051	**0.26**	--	--	<0.051	<0.15
B-63 (6-7')	4/1/2011	--	--	**0.46**	<0.054	**0.52**	<0.054	<0.054	<0.054	--	--	--	--	<0.054	<0.054	**3.2**	<0.054	**2.6**	--	--	<0.054	<0.16
GP-01 (3-5')	12/17/2008	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.10	<0.040	<0.15
GP-03 (6-8')	12/17/2008	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	**0.26**	<0.10	<0.10	<0.040	<0.15
GP-04 (4-6')	12/17/2008	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.10	<0.040	<0.15
GP-06 (3-5')	12/17/2008	<0.050	<0.050	<0.050	<0.050	**0.15**	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	**4.3**	<0.10	<0.10	<0.040	<0.15
GP-07 (2-4')	12/17/2008	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	**4.1**	<0.10	<0.10	<0.040	<0.15
GP-09 (5-7')	12/17/2008	<0.050	<0.050	<0.050	**0.24**	**0.66**	<0.050	**0.092**	<0.10	--	<0.33	<0.33	<0.10	**0.077**	**0.12**	<0.050	<0.050	**3.2**	<0.10	<0.10	<0.040	**0.22**
GP-10 (2-4')	12/17/2008	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	**0.50**	<0.10	<0.10	<0.040	<0.15
GP-12 (5-7')	12/17/2008	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	**0.35**	<0.10	<0.10	<0.040	<0.15
GP-14 (1-3')	12/28/2008	**0.16**	<0.050	<0.050	**0.090**	**0.23**	<0.050	**0.17**	<0.10	--	<0.33	<0.33	**0.30**	**5.9**	**0.31**	**3.8**	<0.050	**43**	**0.89**	**0.19**	<0.040	**1.5**
GP-15 (3-5')	12/28/2008	<0.050	<0.050	<0.050	**0.36**	**1.3**	<0.050	<0.050	<0.10	--	**1.1**	**1.8**	<0.10	**1.2**	**0.11**	**8.8**	<0.050	**38**	**0.22**	<0.10	<0.040	**0.93**
GP-16 (1-3')	12/28/2008	<0.050	<0.050	<0.050	<0.050	**0.41**	**0.067**	<0.050	<0.10	--	**1.4**	**1.5**	<0.10	**3.3**	**0.078**	<0.050	<0.050	**7.6**	<0.10	<0.10	<0.040	**0.31**
GP-17 (3-5')	12/28/2008	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	**1.3**	<0.10	<0.10	<0.040	<0.15
GP-21 (3-5')	1/19/2009	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	**0.075**	<0.050	**4.6**	<0.050	**1.6**	<0.10	<0.10	<0.040	<0.15
GP-22 (8-10')	1/19/2009	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	**4.0**	<0.050	**5.2**	<0.10	<0.10	<0.040	<0.15
GP-23 (3-5')	1/19/2009	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	**0.26**	<0.050	**1.7**	<0.10	<0.10	<0.040	<0.15
GP-25 (1-2')	1/19/2009	<0.050	<0.050	<0.050	<0.050	**3.4**	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	**8.6**	<0.10	<0.10	<0.040	<0.15

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

mg/kg = milligrams 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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

Table 1
Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
GP-26 (3-5')	1/19/2009	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.10	<0.050	<0.15
GP-27 (1-3')	1/19/2009	<0.050	<0.050	<0.050	<0.050	**0.20**	<0.050	**0.064**	<0.10	--	--	--	<0.10	**0.20**	**0.23**	**0.54**	<0.050	**4.5**	<0.10	<0.10	<0.040	**0.44**
GP-28 (21-23')	1/19/2009	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	**0.23**	<0.050	**2.9**	<0.050	**0.94**	<0.10	<0.10	<0.040	<0.15
GP-29 (3-5')	1/19/2009	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.10	<0.040	<0.15
HB-31 (0-0.5')	2/4/2009	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	--	<0.33	<0.33	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.10	<0.10	<0.050	<0.15
MW-32S (0.5-1.5')	9/15/2010	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.29	<0.12	<0.38	<0.38	<0.12	<0.058	<0.12	**0.092**	<0.058	**1.2**	<0.12	<0.12	<0.046	--
MW-32S (22-24')	9/15/2010	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<1.2	<0.46	<1.5	<1.5	<0.46	**0.49**	<0.46	**1.8**	<0.23	**26**	<0.46	<0.46	<0.18	--
MW-33S (1-3')	9/15/2010	**1.8**	**0.49**	<0.053	<0.053	**7.5**	**0.59**	<0.053	<0.27	**0.53**	**4.5**	**2.6**	**0.53**	**0.82**	<0.11	<0.053	**0.30**	**5.7**	**3.9**	**1.2**	**0.41**	--
MW-33S (19-22')	9/15/2010	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<1.2	<0.49	<1.6	<1.6	<0.49	**0.47**	<0.49	<0.24	<0.24	**19**	<0.49	<0.49	<0.20	--
MW-34S (0.5-2.5')	9/16/2010	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.049	<0.24	<0.097	<0.32	<0.32	<0.097	<0.049	<0.097	**0.74**	<0.049	**1.2**	<0.097	<0.097	<0.039	--
MW-34S (21-23')	9/16/2010	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.64	<0.26	<0.85	<0.85	<0.26	**0.33**	<0.26	**9.6**	<0.13	**14**	<0.26	<0.26	<0.10	--
NS-01 (0-4')	4/17/2009	<0.039	--	<0.039	<0.039	<0.039	--	<0.039	--	--	--	**0.48**	<0.039	<0.039	<0.039	<0.039	<0.039	**1.9**	<0.039	<0.039	<0.039	--
NS-01 (16-20')	4/17/2009	<0.025	--	<0.025	<0.025	<0.025	--	<0.025	--	--	--	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	**0.51**	<0.025	<0.025	<0.025	--
NS-02 (0-4')	4/16/2009	<0.027	--	<0.027	<0.027	<0.027	<0.027	<0.027	--	--	--	<0.27	<0.027	<0.027	<0.027	<0.027	<0.027	**0.35**	<0.027	<0.027	<0.027	--
NS-02 (8-12')	4/16/2009	<0.027	--	<0.027	<0.027	<0.027	<0.027	<0.027	--	--	--	<0.27	<0.027	<0.027	<0.027	<0.027	<0.027	**0.75**	<0.027	<0.027	<0.027	--
NS-04 (8-12')	4/16/2009	<0.029	--	<0.029	<0.029	<0.029	<0.029	<0.029	--	--	--	<0.29	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	--
NS-05 (12-14')	4/20/2009	<0.033	--	<0.033	<0.033	**0.058**	<0.033	<0.033	--	--	--	<0.33	<0.033	**0.040**	<0.033	**0.033**	<0.033	**4.5**	<0.033	<0.033	<0.033	--
NS-06 (2-3')	4/20/2009	<0.026	--	<0.026	<0.026	**9.6**	**0.23**	**0.14**	--	--	--	**0.31**	**0.43**	**0.51**	**0.082**	<0.026	<0.026	**5.2**	**4.0**	**1.4**	**0.14**	--
NS-06 (23-24')	4/20/2009	<0.030	--	<0.030	<0.030	<0.030	<0.030	<0.030	--	--	--	<0.30	<0.030	<0.030	<0.030	<0.030	<0.030	**0.52**	<0.030	<0.030	<0.030	--
NS-07 (10-11')	4/21/2009	<0.029	--	<0.029	<0.029	<0.029	<0.029	<0.029	--	--	--	<0.29	<0.029	**0.34**	<0.029	<0.029	<0.029	**1.5**	<0.029	<0.029	<0.029	--
NS-08 (15-16')	4/21/2009	<0.063	--	<0.063	<0.063	<0.063	<0.063	<0.063	--	--	--	<0.63	<0.063	**0.83**	<0.063	<0.063	<0.063	**4.3**	<0.063	<0.063	<0.063	--
NS-09 (2-3')	4/21/2009	**1.2**	--	<0.030	<0.030	**4.9**	**0.077**	**0.088**	--	--	--	**1.2**	**0.37**	<0.030	**0.086**	<0.030	<0.030	**0.31**	**5.4**	**1.9**	**0.48**	--
NS-10 (8-9')	4/21/2009	**9.1**	--	<0.43	<0.43	**0.88**	<0.43	**1.2**	--	--	--	**14**	**4.0**	**0.45**	**0.92**	<0.43	<0.43	<0.43	**34**	**9.7**	<0.43	--
NS-10 (10-11')	4/21/2009	**0.91**	--	<0.027	<0.027	**0.34**	<0.027	**0.11**	--	--	--	**1.5**	**0.36**	**0.028**	**0.090**	<0.027	<0.027	**0.061**	**3.1**	**0.98**	**0.072**	--
NS-11 (0-4')	9/15/2010	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.29	<0.12	<0.38	<0.38	<0.12	**0.059**	<0.12	<0.058	<0.058	**0.77**	<0.12	<0.12	<0.047	<0.18
NS-11 (22-23')	9/15/2010	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.29	<0.10	<0.34	<0.34	<0.10	**0.31**	<0.10	<0.051	<0.051	**4.1**	<0.10	<0.10	<0.041	<0.15
NS-12 (0-2')	9/15/2010	**0.15**	**0.10**	<0.053	<0.053	<0.053	<0.053	<0.053	<0.26	<0.11	<0.35	<0.35	<0.11	**0.19**	<0.11	<0.053	<0.053	**0.88**	<0.11	<0.11	<0.042	<0.16
NS-12 (22-24')	9/15/2010	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.26	<0.10	<0.34	<0.34	<0.10	**0.12**	<0.10	<0.052	<0.052	**2.0**	<0.10	<0.10	<0.042	<0.15

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

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

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Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NS-13 (0.5-4')	9/16/2010	<0.055	<0.055	<0.055	<0.056	<0.055	<0.055	<0.055	<0.26	<0.11	<0.36	<0.36	<0.11	<0.055	<0.11	<0.055	<0.055	**1.9**	<0.11	<0.11	<0.044	<0.17
NS-13 (21-23')	9/16/2010	<0.14	<0.14	<0.14	<0.14	**0.17**	<0.14	<0.14	<0.70	<0.28	<0.92	<0.92	<0.28	<0.14	<0.28	**0.20**	<0.14	**17**	<0.28	<0.28	<0.11	<0.42
NS-14 (0.5-3.5')	9/17/2010	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.29	<0.12	<0.38	<0.38	<0.12	<0.058	<0.12	**0.063**	<0.058	**0.64**	<0.12	<0.12	<0.047	<0.18
NS-14 (22-23')	9/17/2010	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<1.3	<0.52	<1.7	<1.7	<0.52	<0.26	<0.52	**2.3**	<0.26	**18**	<0.52	<0.52	<0.21	<0.78
NS-15 (2-4')	9/17/2010	**1.4**	**1.1**	<0.10	<0.10	**6.7**	<0.57	<0.57	<0.52	<1.1	<3.7	<3.7	<1.1	**0.63**	<1.1	<0.57	<0.57	**72**	<1.1	<1.1	<0.45	<1.7
NS-15 (19-20')	9/17/2010	<0.10	<0.10	<0.57	<0.57	**0.35**	<0.10	<0.10	<2.8	<0.21	<0.68	<0.68	<0.21	**0.13**	<0.21	<0.10	<0.10	**18**	<0.21	<0.21	<0.083	<0.31
NS-16 (2-4')	9/17/2010	<0.057	<0.057	<0.26	<0.26	<0.057	<0.057	<0.057	<1.3	<0.11	<0.38	<0.38	<0.11	<0.057	<0.11	<0.057	<0.057	**1.7**	<0.11	<0.11	<0.046	<0.17
NS-16 (19-20')	9/17/2010	<0.26	<0.26	<0.057	<0.057	**0.47**	<0.26	<0.26	<0.29	<0.52	<1.7	<1.7	<0.52	<0.26	<0.52	<0.26	<0.26	**33**	<0.52	<0.52	<0.21	<0.78
NS-17 (0.5-2.0')	9/17/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.2	<2.1	<6.9	<6.9	<2.1	<1.0	<2.1	<1.0	<1.0	**100**	<2.1	<2.1	<0.84	<3.1
NS-17 (22-23')	9/17/2010	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.26	<0.10	<0.34	<0.34	<0.10	**0.24**	<0.10	**0.23**	<0.052	**2.1**	<0.10	<0.10	<0.041	<0.15
NS-18 (20-25')	7/24/2012	<0.29	<0.29	<0.29	<0.29	**0.45**	<0.29	<0.29	<1.5	<0.58	<1.9	<1.9	<0.58	**0.45**	<0.58	**0.37**	<0.29	**30**	<0.58	<0.58	<0.23	<0.87
NS-18 (30-35')	7/25/2012	<0.61	<0.61	<0.61	<0.61	**1.9**	<0.61	<0.61	<3.1	<1.2	<4.1	<4.1	<1.2	<0.61	<1.2	<0.61	<0.61	**53**	<1.2	<1.2	<0.49	<1.8
NS-18 (40-43')	7/25/2012	<0.12	<0.12	<0.12	<0.12	**4.2**	**0.55**	<0.12	<0.59	<0.24	<0.78	<0.78	<0.24	<0.12	<0.24	<0.12	<0.12	**11**	<0.24	<0.24	<0.094	<0.36
NS-19 (25-30')	7/26/2012	**0.092**	<0.060	<0.060	<0.060	**0.17**	<0.060	<0.060	<0.30	<0.12	<0.39	<0.39	<0.12	<0.060	<0.12	<0.060	<0.060	**2.6**	<0.12	<0.12	**0.085**	<0.18
NS-19 (35-38')	7/26/2012	<0.32	<0.32	<0.32	<0.32	**0.62**	<0.32	<0.32	<1.6	<0.63	<2.1	<2.1	<0.63	<0.32	<0.63	<0.32	<0.32	**45**	<0.63	<0.63	<0.25	<0.95
NS-19 (45-47')	7/26/2012	<0.058	<0.058	<0.058	<0.058	**0.068**	**0.14**	<0.058	<0.29	<0.12	<0.38	<0.38	<0.12	<0.058	<0.12	<0.058	<0.058	**11**	<0.12	<0.12	<0.047	<0.18
NS-20 (23-28')	7/27/2012	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<1.2	<0.49	<1.6	<1.6	<0.49	**0.38**	<0.49	**5.0**	<0.24	**26**	<0.49	<0.49	<0.19	<0.73
NS-20 (29-30')	7/27/2012	**0.11**	**0.13**	**0.75**	<0.059	<0.059	<0.059	<0.059	<0.30	<0.12	<0.39	<0.39	<0.12	**0.10**	<0.12	<0.059	<0.059	**0.43**	<0.12	<0.12	**0.55**	<0.18
NS-20 (35-40')	7/30/2012	<0.056	<0.056	<0.056	<0.056	<0.056	**0.066**	<0.056	<0.28	<0.11	<0.37	<0.37	<0.11	<0.056	<0.11	<0.056	<0.056	**8.7**	<0.11	<0.11	<0.045	<0.17
SS-01 (1.0-1.5')	4/15/2009	<0.032	--	<0.032	<0.032	<0.032	<0.032	<0.032	--	--	--	<0.32	<0.032	<0.032	<0.032	**0.84**	<0.032	**1.9**	<0.032	<0.032	<0.032	--
SS-02 (8-12')	4/16/2009	<0.029	--	<0.029	<0.029	<0.029	<0.029	<0.029	--	--	--	<0.29	<0.029	**0.069**	<0.029	**0.81**	<0.029	**0.97**	<0.029	<0.029	<0.029	--
SS-02 (16-20')	4/16/2009	<0.029	--	<0.029	<0.029	<0.029	<0.029	<0.029	--	--	--	<0.29	<0.029	**0.11**	<0.029	**1.3**	<0.029	**1.5**	<0.029	<0.029	<0.029	--
SS-02 (16-20') (DUP-01)	4/16/2009	<0.032	--	<0.032	<0.032	<0.032	<0.032	<0.032	--	--	--	<0.032	<0.032	**0.16**	<0.032	**1.9**	<0.032	**2.3**	<0.032	<0.032	<0.032	--
SS-03 (8-12')	4/16/2009	<0.030	--	<0.030	<0.030	<0.030	<0.030	<0.030	--	--	--	<0.30	<0.030	**1.1**	<0.030	**1.2**	<0.030	**0.90**	<0.030	<0.030	<0.030	--
SS-03 (16-20')	4/16/2009	<0.035	--	<0.035	<0.035	<0.035	<0.035	<0.035	--	--	--	<0.35	<0.035	**3.9**	<0.035	**3.5**	<0.035	**2.8**	<0.035	<0.035	<0.035	--
SS-04 (8-12')	4/17/2009	<0.12	--	<0.12	<0.12	<0.12	<0.12	<0.12	--	--	--	<1.2	<0.12	**0.49**	<0.12	**8.2**	<0.12	**4.4**	<0.12	<0.12	<0.12	--
SS-04 (12-16')	4/17/2009	<0.030	--	<0.030	<0.030	<0.030	<0.030	<0.030	--	--	--	<0.30	<0.030	**0.23**	<0.030	**3.5**	<0.030	**1.8**	<0.030	<0.030	<0.030	--
SS-05 (3-4')	4/17/2009	<0.13	--	<0.13	<0.13	<0.13	<0.13	<0.13	--	--	--	<1.3	<0.13	**0.24**	<0.13	**13**	<0.13	**11**	<0.13	<0.13	<0.13	--

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

mg/kg = milligrams 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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

Table 1
Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SS-05 (12-13')	4/17/2009	<0.030	--	<0.030	<0.030	<0.030	<0.030	<0.030	--	--	--	<0.30	<0.030	**0.13**	<0.030	**4.4**	<0.030	**3.3**	<0.030	<0.030	<0.030	--
SS-05 (20-21')	4/17/2009	<0.026	--	<0.026	<0.026	<0.026	<0.026	<0.026	--	--	--	<0.26	<0.026	**0.18**	<0.026	**7.7**	<0.026	**5.5**	<0.026	<0.026	<0.026	--
SS-06 (5-7')	4/17/2009	<0.034	--	<0.034	<0.034	<0.034	<0.034	<0.034	--	--	--	<0.34	<0.034	<0.034	<0.034	**0.23**	<0.034	**0.12**	<0.034	<0.034	<0.034	--
SS-07 (21-22')	4/20/2009	<0.035	--	<0.035	<0.035	<0.035	<0.035	<0.035	--	--	--	<0.35	<0.035	<0.035	<0.035	**1.6**	<0.035	**5.0**	<0.035	<0.035	<0.035	--
SS-08 (19-20')	4/21/2009	<0.13	--	<0.13	<0.13	<0.13	<0.13	<0.13	--	--	--	<1.3	<0.13	**0.25**	<0.13	**7.3**	<0.13	**8.6**	<0.13	<0.13	<0.13	--
SS-09 (23-28')	7/31/2012	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.66	<0.26	<0.87	<0.87	<0.26	**0.65**	<0.26	**17**	<0.13	**13**	<0.26	<0.26	<0.11	<0.39
SS-09 (34-39')	7/31/2012	<0.055	<0.055	**0.26**	<0.055	**1.1**	**0.20**	<0.055	<0.28	<0.11	<0.36	<0.36	<0.11	<0.055	<0.11	<0.055	<0.055	<0.055	<0.11	<0.11	<0.044	<0.17
SS-09 (45-50')	7/31/2012	**0.39**	**0.27**	<0.049	<0.049	<0.049	<0.049	<0.049	<0.25	<0.098	<0.32	<0.32	**0.14**	<0.049	<0.098	<0.049	<0.049	**0.38**	**0.23**	<0.098	<0.039	<0.15
SS-10 (22.5-27.5')	8/1/2012	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.29	<0.12	<0.39	<0.39	<0.12	<0.058	<0.12	**1.1**	<0.058	**11**	<0.12	<0.12	<0.047	<0.18
SS-10 (30-35')	8/1/2012	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.68	<0.27	<0.90	<0.90	<0.27	<0.14	<0.27	**0.79**	<0.14	**16**	<0.27	<0.27	<0.11	<0.41
SS-10 (50-55')	8/1/2012	<0.052	<0.052	<0.052	<0.052	**0.29**	<0.052	<0.052	<0.26	<0.10	<0.34	<0.34	<0.10	<0.052	<0.10	<0.052	<0.052	<0.052	<0.10	<0.10	<0.042	<0.15
SVE-01 (3-5')	4/4/2012	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.27	<0.11	<0.36	<0.36	<0.11	**0.063**	<0.11	<0.054	<0.054	**0.16**	<0.11	<0.11	<0.043	<0.16
SVE-01 (16-18')	4/4/2012	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.059	<0.29	<0.12	<0.39	<0.39	<0.12	**0.20**	<0.12	<0.059	<0.059	**0.63**	<0.12	<0.12	<0.047	<0.18
SVE-02 (4-6')	4/4/2012	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.25	<0.10	<0.33	<0.33	<0.10	**0.10**	<0.10	<0.050	<0.050	**0.50**	<0.10	<0.10	<0.040	<0.15
SVE-02 (16-18')	4/5/2012	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.068	<0.34	<0.14	<0.45	<0.45	<0.14	**0.28**	<0.14	<0.068	<0.068	**1.5**	<0.14	<0.14	<0.054	<0.21
SVE-03 (4-6')	4/3/2012	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.28	<0.11	<0.37	<0.37	<0.11	<0.057	<0.11	<0.057	<0.057	**0.62**	<0.11	<0.11	<0.045	<0.17
SVE-03 (16-18')	4/4/2012	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.052	<0.26	<0.10	<0.35	<0.35	<0.10	<0.052	<0.10	<0.052	<0.052	**0.96**	<0.10	<0.10	<0.042	<0.15
SVE-04 (4-6')	4/3/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.52	<0.21	<0.68	<0.68	<0.21	<0.10	<0.21	<0.10	<0.10	**0.58**	<0.21	<0.21	<0.083	<0.31
SVE-04 (16-18')	4/3/2012	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.061	<0.30	<0.12	<0.40	<0.40	<0.12	<0.061	<0.12	<0.061	<0.061	**1.7**	<0.12	<0.12	<0.049	<0.18
SB-MIP-01 (1-2')	6/19/2014	<0.0038	<0.0038	<0.011	**0.034**	**2.8**	**0.18**	<0.0025	<0.0028	<0.0038	--	<0.038	<0.0041	<0.0068	<0.0048	**0.33**	<0.0076	**92**	**0.032**	<0.0029	<0.0070	<0.0073
SB-MIP-01 (2.25-2.75')	6/23/2014	<0.0032	<0.0032	<0.0093	<0.0073	<0.0080	<0.0045	<0.028	<0.0023	<0.0032	--	<0.032	<0.0034	<0.0057	<0.053	**0.11**	<0.083	**0.63**	<0.0035	<0.0024	<0.0058	<0.0061
SB-MIP-01 (3-4')	6/19/2014	<0.042	<0.042	<0.12	<0.097	<0.11	<0.060	<0.0027	<0.030	<0.042	--	<0.42	<0.045	<0.075	<0.0052	**0.35**	<0.0081	**2.1**	<0.046	<0.032	<0.077	<0.081
SB-MIP-01 (4-5')	6/19/2014	<0.0041	<0.0041	<0.012	<0.0094	<0.010	<0.0058	<0.0027	<0.0030	<0.0041	--	<0.041	<0.0044	<0.0074	<0.0051	**0.30**	<0.0080	**2.4**	<0.0045	<0.0031	<0.0075	<0.0079
SB-MIP-01 (4-5') (DUP-01)	6/19/2014	<0.0041	<0.0041	<0.012	<0.0093	<0.010	<0.0057	<0.0026	<0.0029	<0.0041	--	<0.041	<0.0043	<0.0073	<0.0050	**0.67**	<0.0078	**2.1**	<0.0045	<0.0031	<0.0074	<0.0078
SB-MIP-01 (6-8')	6/19/2014	<0.0040	<0.0040	<0.012	<0.0090	<0.0099	<0.0056	<0.0024	<0.0029	<0.0040	--	<0.040	<0.0042	<0.0071	<0.0047	**0.12**	<0.0073	**0.67**	<0.0043	<0.0030	<0.0072	<0.0076
SB-MIP-01 (8-9')	6/19/2014	<0.0037	<0.0037	<0.011	<0.0085	<0.0093	<0.0052	<0.0026	<0.0027	<0.0037	--	<0.037	<0.0040	<0.0066	<0.0049	**0.84**	<0.0077	**2.8**	<0.0041	<0.0028	<0.0068	<0.0071
SB-MIP-01 (11-12')	6/19/2014	<0.0039	<0.0039	<0.011	<0.0089	<0.0098	<0.0055	<0.0021	<0.0028	<0.0039	--	<0.039	<0.0042	<0.0070	<0.0040	**0.39**	<0.0063	**1.2**	<0.0043	<0.0029	<0.0071	<0.0074
SB-MIP-01 (12-13')	6/19/2014	<0.0043	<0.0043	<0.013	<0.0098	<0.011	<0.0061	<0.0028	<0.0031	<0.0043	--	<0.043	<0.0046	<0.0077	<0.0054	**0.67**	<0.0085	**2.0**	<0.0047	<0.0032	<0.0078	<0.0082

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

mg/kg = milligrams 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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

Table 1
Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-MIP-01 (14-15')	6/19/2014	<0.0037	<0.0037	<0.011	<0.0084	<0.0092	<0.0052	<0.0024	<0.0027	<0.0037	--	<0.037	<0.0039	<0.0066	<0.0046	**0.71**	<0.0073	**2.1**	<0.0040	<0.0028	<0.0067	<0.0070
SB-MIP-01 (16-18')	6/19/2014	<0.0043	<0.0043	<0.013	<0.0099	<0.011	<0.0061	<0.0028	<0.0031	<0.0043	--	<0.043	<0.0046	<0.0077	<0.0054	**0.45**	<0.0085	**1.5**	<0.0047	<0.0033	<0.0079	<0.0083
SB-MIP-01 (18-20')	6/19/2014	<0.0039	<0.0039	<0.011	<0.0090	<0.0098	<0.0055	<0.0026	<0.0028	<0.0039	--	<0.039	<0.0042	<0.0070	<0.0049	**0.68**	<0.0077	**2.2**	<0.0043	<0.0030	<0.0071	<0.0075
SB-MIP-01 (20-22')	6/19/2014	<0.0040	<0.0040	<0.012	<0.0091	<0.010	<0.0056	<0.0026	<0.0029	<0.0040	--	<0.040	<0.0042	**0.034**	<0.0050	**1.1**	<0.0079	**3.1**	<0.0044	<0.0030	<0.0072	<0.0076
SB-MIP-01 (22-24')	6/19/2014	<0.0091	<0.0091	<0.027	<0.021	<0.023	<0.013	<0.0060	<0.0066	<0.0091	--	<0.091	<0.0097	<0.016	<0.011	**2.4**	<0.018	**4.1**	<0.010	<0.0069	<0.017	<0.017
SB-MIP-01 (47-48')	6/19/2014	<0.0028	<0.0028	<0.0083	<0.0065	<0.0071	<0.0040	<0.0019	<0.0020	<0.0028	--	<0.028	<0.0030	<0.0051	<0.0036	<0.0065	<0.0056	<0.0036	<0.0031	<0.0021	<0.0051	<0.0054
SB-MIP-01 (49-49.5')	6/19/2014	<0.0034	<0.0034	<0.0098	<0.0077	<0.0084	<0.0047	<0.0022	<0.0024	<0.0034	--	<0.034	<0.0036	<0.0060	<0.0042	<0.0077	<0.0066	<0.0043	<0.0037	<0.0025	<0.0061	<0.0064
SB-MIP-03 (0-2')	6/20/2014	<0.0043	<0.0043	<0.012	<0.0098	<0.011	<0.0060	<0.0028	<0.0031	<0.0043	--	<0.043	<0.0045	<0.0076	<0.0054	**0.047**	<0.0084	**0.36**	<0.0047	<0.0032	<0.0078	<0.0082
SB-MIP-03 (2-3')	6/20/2014	<0.0050	<0.0050	<0.014	<0.011	<0.012	<0.0070	<0.0033	<0.0036	<0.0050	--	<0.050	<0.0053	<0.0089	<0.0062	**0.42**	<0.0098	**2.5**	<0.0054	<0.0037	<0.0090	<0.0095
SB-MIP-03 (4-5')	6/20/2014	<0.0041	<0.0041	<0.012	<0.0093	<0.010	<0.0057	<0.0027	<0.0029	<0.0041	--	<0.041	<0.0043	<0.0073	<0.0051	**0.44**	<0.0080	**1.6**	<0.0045	<0.0031	<0.0074	<0.0078
SB-MIP-03 (4-5') (DUP-02)	6/20/2014	<0.0037	<0.0037	<0.011	<0.0083	<0.0091	<0.0051	<0.0024	<0.0026	<0.0037	--	<0.037	<0.0039	<0.0065	<0.0046	**0.26**	<0.0072	**1.9**	<0.0040	<0.0027	<0.0066	<0.0070
SB-MIP-03 (5-6')	6/20/2014	<0.039	<0.039	<0.11	<0.088	<0.097	<0.054	<0.025	<0.028	<0.039	--	<0.39	<0.041	<0.069	<0.048	<0.088	<0.076	**0.84**	<0.042	<0.029	<0.070	<0.074
SB-MIP-03 (7-8')	6/20/2014	<0.0038	<0.0038	<0.011	<0.0087	<0.0096	<0.0054	<0.0025	<0.0028	<0.0038	--	<0.038	<0.0041	**0.043**	<0.0048	**1.7**	<0.0075	**8.4**	<0.0042	<0.0029	<0.0069	<0.0073
SB-MIP-03 (8-9')	6/20/2014	<0.0037	<0.0037	<0.011	<0.0085	<0.0094	<0.0053	<0.0025	<0.0027	<0.0037	--	<0.037	<0.0040	**0.038**	<0.0047	**1.5**	<0.0074	**7.3**	<0.0041	<0.0028	<0.0068	<0.0071
SB-MIP-03 (10-12')	6/20/2014	<0.0042	<0.0042	<0.012	<0.0096	<0.010	<0.0059	<0.0028	<0.0030	<0.0042	--	<0.042	<0.0045	**0.047**	<0.0052	**2.0**	<0.0083	**9.4**	<0.0046	<0.0031	<0.0076	<0.0080
SB-MIP-03 (12-13')	6/20/2014	<0.0041	<0.0041	<0.012	<0.0094	<0.010	<0.0058	<0.0027	<0.0030	<0.0041	--	<0.041	<0.0044	**0.034**	<0.0052	**1.3**	<0.0081	**6.1**	<0.0045	<0.0031	<0.0075	<0.0079
SB-MIP-03 (14-15')	6/20/2014	<0.0041	<0.0041	<0.012	<0.0094	<0.010	<0.0058	<0.0027	<0.0029	<0.0041	--	<0.041	<0.0044	**0.056**	<0.0051	**2.1**	<0.0081	**9.3**	<0.0045	<0.0031	<0.0074	<0.0078
SB-MIP-03 (17-18')	6/20/2014	<0.0057	<0.0057	<0.017	<0.013	<0.014	<0.0080	<0.0037	<0.0041	<0.0057	--	<0.057	<0.0060	<0.010	<0.0071	**0.59**	<0.011	**2.9**	<0.0062	<0.0043	<0.010	<0.011
SB-MIP-03 (19-20')	6/20/2014	<0.0042	<0.0042	<0.012	<0.0095	**0.042**	<0.0059	<0.0027	<0.0030	<0.0042	--	<0.042	<0.0044	**0.11**	<0.0052	**3.5**	<0.0082	**16**	<0.0046	<0.0031	<0.0076	<0.0080
SB-MIP-03 (20-21')	6/20/2014	<0.0045	<0.0045	<0.013	<0.010	**0.046**	<0.0063	<0.0030	<0.0032	<0.0045	--	<0.045	<0.0048	**0.15**	<0.0056	**4.4**	<0.0089	**20**	<0.0049	<0.0034	<0.0082	<0.0086
SB-MIP-03 (24-28')	6/20/2014	**2.7**	**4.0**	<0.13	<0.098	<0.11	<0.061	<0.028	**3.1**	**9.1**	--	<3.4	**8.3**	<0.077	<0.054	**1.2**	<0.085	<0.055	**33**	**2.2**	<0.078	<0.082
SB-MIP-03 (28-32')	6/20/2014	<0.0040	<0.0040	**0.050**	<0.0092	**3.2**	**0.080**	<0.0027	<0.0029	<0.0040	--	<0.040	<0.0043	<0.0072	<0.0051	<0.0092	<0.0080	**0.61**	<0.0044	<0.0030	**0.086**	<0.0077
SB-MIP-03 (47-48')	6/20/2014	<0.33	<0.33	<0.95	<0.75	<0.82	<0.46	<0.22	<0.24	<0.33	--	<3.3	<0.35	<0.58	<0.41	<0.75	<0.65	**52**	<0.36	<0.25	<0.59	<0.63
SB-MIP-05 (1.5-2.5')	5/27/2015	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	<0.067	--	<0.67	<0.067	<0.067	<0.067	<0.067	<0.067	**3.6**	<0.067	<0.067	<0.067	<0.20
SB-MIP-05 (6-7')	5/27/2015	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--	<1.4	<0.14	<0.14	<0.14	<0.14	<0.14	**4.9**	<0.14	<0.14	<0.14	<0.42
SB-MIP-05 (14-15')	5/27/2015	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	--	<0.60	<0.060	<0.060	<0.060	<0.060	<0.060	**2.4**	<0.060	<0.060	<0.060	<0.18
SB-MIP-05 (14-15') (DUP-03)	5/27/2015	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	--	<0.30	<0.030	<0.030	<0.030	<0.030	<0.030	**1.7**	<0.030	<0.030	<0.030	<0.091
SB-MIP-05 (49.5-50')	5/27/2015	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	--	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.074

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

mg/kg = milligrams 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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

Table 1
Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-MIP-05 (50-51.5')	5/27/2015	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	--	<0.23	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	**0.028**	<0.023	<0.023	<0.070
SB-MIP-14 (3-4')	5/20/2015	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	--	<0.46	<0.046	<0.046	<0.046	**0.11**	<0.046	**3.1**	<0.046	<0.046	<0.046	<0.14
SB-MIP-14 (4-5')	5/20/2015	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	--	<0.26	<0.026	<0.026	<0.026	**0.029**	<0.026	**0.58**	<0.026	<0.026	<0.026	<0.078
SB-MIP-14 (4-5') (DUP-02)	5/20/2015	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	--	<0.27	<0.027	<0.027	<0.027	**0.059**	<0.027	**1.0**	<0.027	<0.027	<0.027	<0.080
SB-MIP-23 (44-45')	6/2/2015	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	--	<0.22	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.067
SB-MIP-23 (45-46')	6/2/2015	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	--	<0.23	<0.023	<0.023	<0.023	<0.023	<0.023	**0.030**	<0.023	<0.023	<0.023	<0.070
SB-MIP-23 (45-46') (DUP-04)	6/2/2015	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	--	<0.23	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.069
SB-MIP-25 (2.5-3.5')	6/1/2015	<0.057	<0.057	<0.057	<0.057	<0.057	<0.057	<0.025	<0.057	<0.057	--	<0.57	<0.057	<0.057	<0.025	<0.057	<0.025	**0.72**	<0.057	<0.057	<0.057	<0.17
SB-MIP-25 (3.5-4.5')	6/1/2015	<0.092	<0.092	<0.092	<0.092	<0.092	<0.092	<0.057	<0.092	<0.092	--	<0.92	<0.092	<0.092	<0.057	**0.85**	<0.057	**4.2**	<0.092	<0.092	<0.092	<0.28
SB-MIP-25 (4.5-5.5')	6/1/2015	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.092	<0.025	<0.025	--	<0.25	<0.025	<0.025	<0.092	**0.11**	<0.092	**0.78**	<0.025	<0.025	<0.025	<0.074
SB-MIP-25 (5.25-6.25')	6/1/2015	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	--	<0.27	<0.027	<0.027	<0.027	**0.16**	<0.027	**1.2**	<0.027	<0.027	<0.027	<0.080
SB-MIP-25 (6.25-7.25')	6/1/2015	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	--	<0.23	<0.023	<0.023	<0.023	**0.23**	<0.023	**1.3**	<0.023	<0.023	<0.023	<0.069
SB-MIP-25 (7.25-8.25')	6/1/2015	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	<0.066	--	<0.66	<0.066	<0.066	<0.066	**0.26**	<0.066	**1.4**	<0.066	<0.066	<0.066	<0.20
SB-MIP-25 (11.5-12.5')	6/1/2015	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	--	<0.58	<0.058	<0.058	<0.058	**0.51**	<0.058	**2.2**	<0.058	<0.058	<0.058	<0.17
SB-MIP-25 (15.75-16.75')	6/1/2015	<0.073	<0.073	<0.073	<0.073	<0.073	<0.073	<0.073	<0.073	<0.073	--	<0.73	<0.073	<0.073	<0.073	**0.65**	<0.073	**2.5**	<0.073	<0.073	<0.073	<0.22
SB-MIP-25 (19.5-20.5')	6/1/2015	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	--	<1.1	<0.11	<0.11	<0.11	**0.88**	<0.11	**3.5**	<0.11	<0.11	<0.11	<0.34
SB-MIP-25 (21.5-22.5')	6/1/2015	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--	<1.4	<0.14	<0.14	<0.14	**1.2**	<0.14	**4.5**	<0.14	<0.14	<0.14	<0.43
SB-MIP-25 (47.5-48.5')	6/1/2015	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	--	<11	<1.1	<1.1	<1.1	<1.1	<1.1	**35**	<1.1	<1.1	<1.1	<3.2
SB-MIP-25 (50-51')	6/1/2015	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	--	<0.22	<0.022	<0.022	<0.022	<0.022	<0.022	**0.044**	<0.022	<0.022	<0.022	<0.067
SB-MIP-25 (52.5-53.5')	6/1/2015	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	--	<0.22	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.065
SB-MIP-25 (53.5-54.5')	6/1/2015	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	--	<0.23	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.070
SB-MIP-30 (7-8')	6/3/2015	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	--	<0.29	<0.029	**0.048**	<0.029	<0.029	<0.029	**1.6**	<0.029	<0.029	<0.029	<0.086
SB-MIP-30 (11-12')	6/3/2015	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	--	<0.28	<0.028	<0.028	<0.028	<0.028	<0.028	**0.034**	<0.028	<0.028	<0.028	<0.084
SB-MIP-30 (44.5-45.5')	6/3/2015	<0.11	<0.11	<0.11	<0.11	**2.2**	**0.62**	<0.11	<0.11	<0.11	--	<1.1	<0.11	<0.11	<0.11	<0.11	<0.11	**0.73**	<0.11	<0.11	<0.11	<0.34
SB-MIP-30 (46-47')	6/3/2015	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	--	<0.26	<0.026	<0.026	<0.026	<0.026	<0.026	**0.086**	<0.026	<0.026	<0.026	<0.077
SB-MIP-35 (1-2')	5/19/2015	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	--	<0.32	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.032	<0.095
SB-MIP-35 (2-3')	5/19/2015	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	--	<0.31	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.092
SB-MIP-35 (3-4')	5/19/2015	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	--	<0.33	<0.033	**0.050**	<0.033	<0.033	<0.033	**0.057**	<0.033	<0.033	<0.033	<0.099

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

mg/kg = milligrams 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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

Table 1
Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-MIP-35 (14-15')	5/19/2015	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	--	<0.34	<0.034	**0.20**	<0.034	**0.043**	<0.034	**1.1**	<0.034	<0.034	<0.034	<0.10
SB-MIP-35 (20.5-21.5')	5/19/2015	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	<0.056	--	<0.56	<0.056	**0.24**	<0.056	**0.14**	<0.056	**2.3**	<0.056	<0.056	<0.056	<0.17
SB-MIP-38 (1.5-3.5')	5/18/2015	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	--	<0.25	<0.025	<0.025	<0.025	<0.025	<0.025	**0.12**	<0.025	<0.025	<0.025	<0.075
SB-MIP-40 (1-2')	5/20/2015	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	--	<0.24	<0.024	<0.024	<0.024	**0.052**	<0.024	**0.34**	<0.024	<0.024	<0.024	<0.073
SB-MIP-40 (2-3')	5/20/2015	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	--	<0.26	<0.026	**0.032**	<0.026	**0.17**	<0.026	**0.77**	<0.026	<0.026	<0.026	<0.077
SB-MIP-40 (6-7')	5/20/2015	<0.055	<0.055	<0.055	<0.055	<0.055	<0.055	<0.055	<0.055	<0.055	--	<0.55	<0.055	<0.055	<0.055	**0.082**	<0.055	**1.1**	<0.055	<0.055	<0.055	<0.16
SB-MIP-40 (9-10')	5/20/2015	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	--	<2.6	<0.26	<0.26	<0.26	**0.58**	<0.26	**7.0**	<0.26	<0.26	<0.26	<0.78
SB-MIP-40 (12-13')	5/20/2015	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	--	<3.0	<0.30	**0.41**	<0.30	**1.5**	<0.30	**16**	<0.30	<0.30	<0.30	<0.90
SB-MIP-40 (15-16')	5/20/2015	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	--	<2.8	<0.28	**0.31**	<0.28	**1.2**	<0.28	**12**	<0.28	<0.28	<0.28	<0.85
SB-MIP-40 (16.5-17.5')	5/20/2015	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	--	<3.0	<0.30	**0.43**	<0.30	**2.1**	<0.30	**20**	<0.30	<0.30	<0.30	<0.89
SB-MIP-40 (18-19')	5/20/2015	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	--	<6.2	<0.62	**0.62**	<0.62	**3.1**	<0.62	**27**	<0.62	<0.62	<0.62	<1.9
SB-MIP-40 (20-21')	5/20/2015	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	<0.68	--	<6.8	<0.68	**0.72**	<0.68	**3.5**	<0.68	**29**	<0.68	<0.68	<0.68	<2.0
SB-MIP-40 (21-22')	5/20/2015	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	<0.56	--	<5.6	<0.56	<0.56	<0.56	**2.0**	<0.56	**18**	<0.56	<0.56	<0.56	<1.7
SB-MIP-40 (22-23')	5/20/2015	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	--	<12	<1.2	<1.2	<1.2	**3.6**	<1.2	**28**	<1.2	<1.2	<1.2	<3.5
SB-MIP-41 (4.4-5.4')	5/21/2015	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	--	<0.24	<0.024	<0.024	<0.024	**0.029**	<0.024	**0.68**	<0.024	<0.024	<0.024	<0.073
SB-MIP-41 (5.4-6.6')	5/21/2015	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	--	<0.31	<0.031	<0.031	<0.031	<0.031	<0.031	**0.14**	<0.031	<0.031	<0.031	<0.092
SB-MIP-41 (6.8-7.8')	5/21/2015	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	--	<0.29	<0.029	<0.029	<0.029	**0.060**	<0.029	**0.56**	<0.029	<0.029	<0.029	<0.086
SB-MIP-41 (12.5-13.5')	5/21/2015	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	--	<0.28	<0.028	**0.045**	<0.028	**0.14**	<0.028	**0.93**	<0.028	<0.028	<0.028	<0.085
SB-MIP-41 (18.5-19.5')	5/21/2015	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	--	<0.28	<0.028	**0.079**	<0.028	**0.34**	<0.028	**2.3**	<0.028	<0.028	<0.028	<0.084
SB-MIP-41 (20.5-21.5')	5/21/2015	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	--	<1.5	<0.15	**0.18**	<0.15	**0.80**	<0.15	**5.8**	<0.15	<0.15	<0.15	<0.45
SB-MIP-41 (21.5-22.5')	5/21/2015	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	--	<1.1	<0.11	**0.12**	<0.11	**0.57**	<0.11	**4.1**	<0.11	<0.11	<0.11	<0.32
SB-MIP-41 (22.5-23.5')	5/21/2015	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--	<1.4	<0.14	**0.15**	<0.14	**0.60**	<0.14	**4.5**	<0.14	<0.14	<0.14	<0.42
SB-MIP-44 (4.5-5.5')	5/21/2015	<1.7	<1.7	<1.7	<1.7	**27**	<1.7	<1.7	<1.7	<1.7	--	<17	<1.7	<1.7	<1.7	<1.7	<1.7	**80**	<1.7	<1.7	<1.7	<5.2
SB-MIP-44 (5.5-6.5')	5/21/2015	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	--	<0.27	<0.027	**0.070**	<0.027	<0.027	<0.027	**0.84**	<0.027	<0.027	<0.027	<0.080
SB-MIP-44 (6.5-7.5')	5/21/2015	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	--	<0.26	<0.026	<0.026	<0.026	<0.026	<0.026	**0.12**	<0.026	<0.026	<0.026	<0.078
SB-MIP-44 (18-19')	5/21/2015	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	--	<1.2	<0.12	**0.15**	<0.12	**0.13**	<0.12	**3.5**	<0.12	<0.12	<0.12	<0.36
SB-MIP-44 (19.5-20.5')	5/21/2015	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	--	<1.1	<0.11	**0.14**	<0.11	**0.15**	<0.11	**3.4**	<0.11	<0.11	<0.11	<0.34
SB-MIP-44 (21.5-22.5')	5/21/2015	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	--	<0.58	<0.058	**0.081**	<0.058	**0.097**	<0.058	**2.4**	<0.058	<0.058	<0.058	<0.17

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

mg/kg = milligrams 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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

Table 1
Summary of Detected Volatile Organic Compounds at On-Site Soil Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		n-Butyl-benzene	sec-Butyl-benzene	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Isopropyl-benzene	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-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes[1]
Residential DWP Criteria		1.6	1.6	18	0.14	1.4	2.0	1.5	91	NC	57	35	1.6	0.10	16	4.0	0.10	0.10	2.1	1.8	0.040	5.6
GSIP Criteria		NC	NC	15	2.6	12	30[2]	0.36	3.2	NC	4.2	0.73	NC	1.2[2]	5.4	1.8	6.6[2]	4.0[2]	0.57	1.1	0.26[2]	0.82
Residential DC Criteria		2,500	2,500	27,000	200	2,500	3,800	22,000	25,000	NC	8,100	16,000	2,500	200	50,000	500,000	180	110	32,000	32,000	3.8	410,000
Non-Residential DC Criteria		8,000	8,000	87,000	660	8,000	12,000	71,000	80,000	NC	26,000	52,000	8,000	930	160,000	1,000,000	840	660	100,000	100,000	34	1,000,000
Residential SVIAI Criteria		NC	NC	230	0.062	22	23	87	400	NC	2,700	250	NC	11	330	250	4.6	1.0	4,300	2,600	0.27	6,300
Non-Residential SVIAI Criteria		NC	NC	430	0.33	41	43	460	730	NC	4,900	470	NC	21	610	4,600	24	1.9	8,000	4,800	2.8	12,000
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
SB-MIP-46 (0.5-1.5')	5/19/2015	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	--	<11	<1.0	**9.1**	<1.0	<1.0	<1.0	**58**	<1.0	<1.0	<1.0	<3.0
SB-MIP-46 (1.5-2.5')	5/19/2015	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	--	<1.4	<0.14	**0.54**	<0.14	<0.14	<0.14	**7.0**	<0.14	<0.14	<0.14	<0.42
SB-MIP-46 (2.5-3.5')	5/19/2015	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	<0.051	--	<0.51	<0.051	<0.051	<0.051	<0.051	<0.051	**0.12**	<0.051	<0.051	<0.051	<0.15
SB-MIP-46 (7-8')	5/19/2015	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	<0.033	--	<0.33	<0.033	<0.033	<0.033	<0.033	<0.033	**0.052**	<0.033	<0.033	<0.033	<0.098
SB-MIP-46 (21-22')	5/19/2015	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	--	<0.29	<0.029	**0.14**	<0.029	**0.23**	<0.029	**0.70**	<0.029	<0.029	<0.029	<0.087
SB-MIP-46 (21-22') (DUP-01)	5/19/2015	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	<0.026	--	<0.26	<0.026	**0.078**	<0.026	**0.14**	<0.026	**0.40**	<0.026	<0.026	<0.026	<0.079
SB-MIP-48 (4-5')	5/22/2015	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	--	<1.3	<0.13	**5.0**	<0.13	<0.13	**0.15**	**0.82**	<0.13	<0.13	<0.13	<0.39
SB-MIP-48 (5-6')	5/22/2015	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	--	<1.5	<0.15	**7.0**	<0.15	<0.15	**0.18**	**1.0**	<0.15	<0.15	<0.15	<0.46
SB-MIP-48 (6-7')	5/22/2015	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	--	<1.5	<0.15	**8.7**	<0.15	<0.15	**0.22**	**1.3**	<0.15	<0.15	<0.15	<0.44
SB-MIP-48 (7-8')	5/22/2015	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	--	<1.5	<0.15	**7.2**	<0.15	<0.15	<0.15	**1.1**	<0.15	<0.15	<0.15	<0.44
SB-MIP-50 (39.7-40')	5/27/2015	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	--	<0.21	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.063
SB-MIP-60 (8.5-9.5')	5/22/2015	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	--	<0.30	<0.030	**0.14**	<0.030	<0.030	<0.030	**0.35**	<0.030	<0.030	<0.030	<0.089
SB-MIP-60 (13.5-14.5')	5/22/2015	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	--	<0.74	<0.074	**0.36**	<0.074	<0.074	<0.074	**2.7**	<0.074	<0.074	<0.074	<0.22

Notes:

Residential Drinking Water Protection (DWP) Criteria, Groundwater to Surface Water Interface Protection (GSIP) Criteria, Residential and Non-Residential Direct Contact (DC) Criteria and Residential and Non-Residential Soil Volatilization to Indoor Air Inhalation (SVIAI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013.

mg/kg = milligrams 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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater at On-Site, Near Source Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,2-Dichloro-ethane[1]	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes
Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
GSI Criteria	200[2]	NC	1,100[2]	350	740	360[2]	130	620	1,500[2]	18	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Residential GWSL for Vapor Intrusion	27	91	44,000	140	4,300	41	370	83	360	700	92	94	36,000	17,000	96	10	1,700	1,200	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
B-22 (18-23')	4/14/2009	<20	<20	<100	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**53**	<20	**190**	<20	<20	<20	<40
B-22 (40-44')	4/14/2009	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	**13**	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	**3.0**	<1.0	<1.0	<1.0	<2.0
B-68 (14.5-16.5')	7/24/2012	<20	<20	<100	<20	<20	<20	<20	**28**	<20	<20	<20	<20	<20	<20	**1,200**	<20	**1,900**	<20	<20	<20	<60
B-68 (20.7-22.7')	7/24/2012	<50	<50	<250	<50	<50	<50	**130**	<50	<50	<50	<50	<50	<50	**5,300**	<50	<50	**4,200**	<50	<50	<50	<150
B-68 (27.7-29.7')	7/24/2012	<25	<25	<120	<25	<25	<25	<25	**51**	**89**	<25	<25	<25	<25	<25	<25	<25	**2,800**	<25	<25	<25	<75
B-90 (17.5-20.5')	5/19/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,100**	<100	<100	**1,600**	<100	<100	<100	<300
B-90 (20.5-23.5')	5/19/2015	<130	<130	<1,300	<130	<130	<130	<130	<130	<130	<130	<130	<130	<130	**3,700**	<130	<130	**1,600**	<130	<130	<130	<380
B-90 (23.5-26.5')	5/19/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**390**	<100	<100	**2,400**	<100	<100	<100	<300
B-90 (26.5-29.5')	5/19/2015	<50	<50	<500	<50	<50	<50	<50	<50	**60**	<50	<50	<50	<50	<50	<50	<50	**1,600**	<50	<50	<50	<150
B-90 (29.5-32.5')	5/15/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<100	<100	<100	<300
B-90 (32.5-35.5')	5/19/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,500**	<100	<100	<100	<300
B-90 (35.5-38.5')	5/19/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<100	<100	<100	<300
B-90 (38.5-41.5')	5/19/2015	<100	<100	<1,000	<100	<100	<100	<100	**330**	<100	<100	<100	<100	<100	<100	<100	<100	**2,300**	<100	<100	<100	<300
B-90 (41.5-44.5')	5/15/2015	<80	<80	<800	<80	<80	<80	<80	**420**	**89**	<80	<80	<80	<80	<80	<80	<80	**1,500**	<80	<80	<80	<240
B-99 (10.5-13.5')	6/1/2015	<20	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	**29**	<20	**230**	<20	**250**	<20	<20	<20	<20	<60
B-99 (13.5-16.5')	6/1/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,000**	<100	**570**	<100	<100	<100	<100	<300
B-100 (8-11')	6/2/2015	<1,000	<1,000	<10,000	<1,000	<1,000	<1,000	<1,000	**3,800**	<1,000	<1,000	<1,000	**32,000**	<1,000	<1,000	<1,000	**2,700**	<1,000	<1,000	<1,000	<3,000
B-100 (10-13')	6/1/2015	<1,000	<1,000	<10,000	<1,000	<1,000	<1,000	<1,000	**3,100**	<1,000	<1,000	<1,000	**17,000**	<1,000	<1,000	<1,000	**2,500**	<1,000	<1,000	**1,100**	<3,000
B-100 (13-16')	6/1/2015	<50	<50	<500	<50	<50	<50	<50	**190**	<50	<50	<50	**1,100**	<50	<50	<50	**1,200**	<50	<50	**150**	<150
B-101 (12-15')	6/3/2015	<200	<200	<2,000	<200	<200	<200	<200	<200	<200	<200	<200	**3,700**	<200	<200	<200	**560**	<200	<200	<200	<600
B-101 (15-18')	6/3/2015	<13	<13	<130	<13	<13	<13	**19**	**15**	<13	<13	<13	**130**	<13	**71**	<13	**320**	<13	<13	<13	<38
B-101 (18-21')	6/3/2015	<130	<130	<1,300	<130	<130	<130	<130	<130	<130	<130	<130	<130	<130	**1,200**	<130	**4,500**	<130	<130	<130	<380
B-102 (8-11')	6/3/2015	<500	<500	<5,000	<500	<500	<500	<500	**3,600**	<500	<500	<500	**9,700**	<500	<500	<500	**560**	<500	<500	**530**	<1,500
B-102 (11-14')	6/3/2015	<130	<130	<1,300	<130	<130	<130	<130	**2,300**	<130	<130	<130	**1,200**	<130	<130	<130	**290**	<130	<130	**1,900**	<380
B-102 (14-17')	6/3/2015	<50	<50	<500	<50	<50	<50	<50	**420**	<50	<50	<50	**80**	<50	<50	<50	**1,100**	<50	<50	**700**	<150
B-104 (12-15')	6/9/2015	<100	<100	<1,000	<100	<100	<100	<100	**170**	<100	<100	<100	**4,000**	<100	<100	<100	**1,300**	<100	<100	<100	<300
B-104 (15-18')	6/9/2015	<20	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	**190**	<20	**23**	<20	**570**	<20	<20	<20	<60
B-104 (15-18') (DUP-19)	6/9/2015	<20	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	**190**	<20	**22**	<20	**570**	<20	<20	<20	<60

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater at On-Site, Near Source Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,2-Dichloro-ethane[1]	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes
Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
GSI Criteria	200[2]	NC	1,100[2]	350	740	360[2]	130	620	1,500[2]	18	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Residential GWSL for Vapor Intrusion	27	91	44,000	140	4,300	41	370	83	360	700	92	94	36,000	17,000	96	10	1,700	1,200	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
B-104 (18-21')	6/8/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<100	<100	<100	<300
B-105 (13-16')	6/8/2015	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	**140**	<10	**37**	<10	**170**	<10	<10	<10	<30
B-105 (16-19')	6/8/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**360**	<100	**1,700**	<100	<100	<100	<300
B-105 (19-22')	6/8/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**170**	<100	**2,900**	<100	<100	<100	<300
GP-01 (26-30')	12/15/2008	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
GP-02 (20-24')	12/15/2008	<1	<1	<1	<1	**11**	<1	**17**	**210**	**4**	<1	<1	**2**	<1	**16**	<1	**920**	<1	<1	<1	<3
GP-03 (20-24')	12/15/2008	<1	<1	**43**	<1	**25**	<1	**2**	**760**	**27**	<1	<1	<1	<1	<1	<1	**510**	<1	<1	<1	<3
GP-04 (25-29')	12/15/2008	<1	<1	**9**	<1	**18**	<1	**4**	**240**	**22**	<1	<1	<1	<1	<1	<1	**320**	<1	<1	<1	<3
GP-05 (25-29')	12/15/2008	<1	<1	**23**	<1	**160**	<1	**10**	**510**	**12**	<1	<1	<1	<1	<1	<1	**660**	<1	<1	<1	<3
GP-06 (25-29')	12/15/2008	**3**	<1	**11**	<1	**84**	<1	**70**	**120**	**1**	<1	<1	<1	<1	**60**	<1	**550**	<1	<1	<1	<3
GP-07 (25-29')	12/16/2008	<1	<1	**5**	<1	<1	<1	**3**	**4**	<1	<1	<1	<1	<1	**3**	<1	**300**	<1	<1	<1	<3
GP-08 (26-30')	12/16/2008	<1	<1	<1	<1	**9**	<1	<1	**160**	**11**	<1	<1	<1	<1	<1	<1	**49**	<1	<1	<1	<3
GP-09 (25-29')	12/16/2008	<1	<1	<1	<1	**89**	<1	**26**	**9**	**2**	<1	<1	<1	<1	**31**	<1	**540**	<1	<1	<1	<3
GP-10 (20-24')	12/16/2008	<1	<1	<1	**1**	**3**	<1	**76**	**36**	<1	<1	<1	<1	<1	**34**	**4**	**370**	<1	<1	<1	<3
GP-11 (20-24')	12/16/2008	<1	**3**	<1	<1	<1	<1	**3**	**15**	<1	**3**	**7**	<1	<1	**4**	<1	**100**	**64**	**35**	<1	<3
GP-12 (20-24')	12/16/2008	<1	<1	<1	**3**	**3**	<1	**320**	**7**	<1	<1	<1	<1	<1	**390**	<1	**530**	<1	<1	<1	<3
GP-13 (25-29')	12/16/2008	<1	<1	<1	<1	<1	<1	**6**	**1**	<1	<1	<1	<1	<1	**6**	<1	**210**	<1	<1	<1	<3
GP-14 (25-29')	12/22/2008	<1	<1	<1	<1	**8**	<1	**31**	<1	<1	<1	<1	**12**	<1	**260**	**1**	**190**	<1	<1	<1	<3
GP-15 (20-24')	12/22/2008	<1	<1	<1	<1	**31**	<1	**12**	**120**	**3**	<1	<1	**3**	<1	**150**	<1	**450**	<1	<1	<1	<3
GP-16 (25-29')	12/22/2008	**9**	<1	<1	<1	**30**	<1	**2**	**3**	**1**	**3**	<1	<1	**3**	**16**	**2**	**8**	**4**	**1**	<1	**10**
GP-17 (25-29')	12/22/2008	<1	<1	<1	<1	**47**	<1	**18**	<1	<1	<1	<1	**1**	<1	**200**	<1	**200**	<1	<1	<1	<3
GP-18 (20-24')	12/22/2008	<1	<1	<1	<1	<1	<1	<1	**1**	<1	<1	<1	**1**	<1	**3**	<1	**190**	<1	<1	<1	<3
GP-19 (25-29')	12/22/2008	<1	<1	<1	<1	<1	<1	**11**	<1	<1	<1	<1	<1	<1	**71**	<1	**86**	<1	<1	<1	<3
GP-21 (20-24')	1/14/2009	<20	<20	<20	<20	**47**	<20	**920**	<20	<20	<20	<20	<20	<20	**8,500**	<20	**1,700**	<20	<20	<20	<60
GP-22 (22-26')	1/14/2009	<20	<20	<20	<20	**160**	<20	**210**	**160**	<20	<20	<20	<20	<20	**3,500**	<20	**1,600**	<20	<20	<20	<30
GP-22 (41-45')	1/14/2009	<1	<1	<1	<1	**6**	<1	**10**	**81**	**21**	<1	<1	<1	<1	**38**	<1	**560**	<1	<1	<1	<3
GP-23 (22-26')	1/14/2009	<1	<1	<1	<1	**32**	<1	<1	**430**	**27**	<1	<1	<1	<1	<1	<1	**300**	<1	<1	<1	<3
GP-23 (31-35')	1/14/2009	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3

Notes:

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Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

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Tecumseh, Michigan

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Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
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Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
GP-24 (10-14')	1/14/2009	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**48**	<1	<1	<1	<3
GP-25 (25-29')	1/15/2009	<1	<1	<1	<1	**87**	<1	<1	**170**	**10**	<1	<1	<1	<1	<1	<1	**240**	<1	<1	<1	<3
GP-26 (25-29')	1/15/2009	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
GP-27 (25-29')	1/15/2009	<1	<1	<1	<1	<1	<1	**14**	<1	<1	<1	<1	<1	<1	**120**	<1	**170**	<1	<1	<1	<3
GP-28 (22-26')	1/15/2009	<1	<1	<1	<1	**23**	<1	**36**	<1	<1	<1	<1	**5**	<1	**540**	<1	**110**	<1	<1	<1	<3
GP-28 (41-45')	1/15/2009	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
GP-29 (22-26')	1/15/2009	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**34**	<1	<1	<1	<3
NS-01 (20-24')	4/17/2009	<20	<20	<100	<20	<20	<20	<20	**260**	<20	<20	<20	<20	<20	<20	<20	**830**	<20	<20	<20	<40
NS-02 (20-24')	4/17/2009	<50	<50	<250	<50	<50	<50	<50	**590**	<50	<50	<50	<50	<50	<50	<50	**1,700**	<50	<50	**430**	<100
NS-03 (16-20')	4/15/2009	<4.0	<4.0	<20	<4.0	<4.0	<4.0	<4.0	**23**	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	**45**	<4.0	<4.0	**41**	<8.0
NS-03 (37-41')	4/15/2009	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	**9.8**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**19**	<1.0	<1.0	**480**	<2.0
NS-04 (14-18')	4/16/2009	<1.0	<1.0	<5.0	<1.0	**1.4**	<1.0	<1.0	**11**	**1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
NS-04 (32-36')	4/16/2009	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	**5.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
NS-05 (20-24')	4/20/2009	<200	<200	<1,000	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**2,900**	<200	<200	<200	<400
NS-06 (22-26')	4/20/2009	<100	<100	<500	<100	<100	<100	<100	**220**	<100	<100	<100	<100	<100	**100**	<100	**4,500**	<100	<100	<100	<200
NS-07 (20-24')	4/21/2009	<20	<20	<100	<20	<20	<20	<20	**34**	<20	<20	<20	**30**	<20	<20	<20	**710**	<20	<20	<20	<40
NS-08 (20-24')	4/21/2009	<20	<20	<100	<20	**21**	<20	<20	**100**	<20	<20	<20	**28**	<20	<20	<20	**960**	<20	<20	**27**	<40
NS-08 (20-24') DUP-09	4/21/2009	<20	<20	<100	<20	**22**	<20	<20	**100**	<20	<20	<20	<20	**29**	<20	<20	**950**	<20	<20	**30**	<40
NS-09 (20-24')	4/21/2009	<1.0	<1.0	**5.8**	**1.1**	**46**	<1.0	<1.0	**110**	**5.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**16**	**1.3**	<1.0	**140**	<2.0
NS-10 (21-25')	4/21/2009	<10	<10	<50	<10	**26**	<10	<10	**380**	**13**	<10	<10	<10	<10	<10	<10	<10	**17**	<10	**45**	<20
NS-11 (23-28')	9/15/2010	<10	<10	<50	<10	<10	<10	<10	**13**	<10	<10	<10	<10	<10	**15**	<10	**1,500**	<10	<10	<10	<30
NS-12 (23-28')	9/15/2010	<10	<10	<50	<10	**31**	<10	**14**	**330**	<10	<10	<10	<10	<10	<10	<10	**720**	<10	<10	**120**	<30
NS-13 (23-28')	9/16/2010	<10	<10	<50	<10	<10	<10	<10	**71**	<10	<10	<10	<10	<10	**13**	<10	**980**	<10	<10	<10	<30
NS-13 (23-28') DUP-02	9/16/2010	<1.0	<1.0	<50	<10	<10	<10	<10	**69**	<10	<1.0	<1.0	<10	<1.0	**12**	<1.0	**970**	<10	<1.0	<10	<2.0
NS-14 (23-28')	9/17/2010	<10	<10	<50	<10	**28**	<10	<10	**120**	<10	<10	<10	<10	<10	**280**	<10	**1,300**	<10	<10	<10	<30
NS-15 (22-27')	9/17/2010	<10	<10	<50	<10	**57**	<10	<10	**1,300**	**62**	<10	<10	<10	<10	<10	<10	**87**	<10	<10	**660**	<30
NS-16 (19-24')	9/17/2010	<5.0	<5.0	<25	<5.0	**25**	<5.0	<5.0	**150**	**6.2**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**530**	<5.0	<5.0	**210**	<15
NS-17 (23-28')	9/17/2010	<1.0	<1.0	**7.0**	<1.0	**19**	<1.0	<1.0	**2.2**	<1.0	<1.0	<1.0	**1.6**	<1.0	**35**	<1.0	**120**	<1.0	<1.0	<1.0	<3.0

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

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Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater at On-Site, Near Source Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,2-Dichloro-ethane[1]	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes
Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
GSI Criteria	200[2]	NC	1,100[2]	350	740	360[2]	130	620	1,500[2]	18	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Residential GWSL for Vapor Intrusion	27	91	44,000	140	4,300	41	370	83	360	700	92	94	36,000	17,000	96	10	1,700	1,200	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
NS-18s (20-25')	7/25/2012	<10	<10	<50	<10	**19**	<10	<10	**58**	<10	<10	<10	<10	<10	**11**	<10	**900**	<10	<10	<10	<30
NS-18i (30-35')	7/25/2012	<25	<25	<120	<25	<25	<25	<25	**600**	**140**	<25	<25	<25	<25	<25	<25	**2,600**	<25	<25	**26**	<75
NS-18i (30-35') DUP-01	7/25/2012	<25	<25	<120	<25	<25	<25	<25	**610**	**140**	<25	<25	<25	<25	<25	<25	**2,600**	<25	<25	**26**	<75
NS-18d (39-44')	7/25/2012	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	**200**	**30**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**33**	<2.0	<2.0	<2.0	<6.0
NS-19s (24-29)	7/27/2012	<10	<10	<50	<10	<10	<10	<10	**69**	<10	<10	<10	<10	<10	**30**	<10	**900**	<10	<10	**53**	<30
NS-19i (34-39)	7/27/2012	<5.0	<5.0	<25	<5.0	<5.0	<5.0	<5.0	**91**	**26**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**630**	<5.0	<5.0	<5.0	<15
NS-19d (43.5-48.5)	7/27/2012	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**27**	<1.0	<1.0	<1.0	<3.0
NS-20s (23-28)	7/31/2012	<25	<25	<120	<25	<25	<25	<25	**120**	<25	<25	<25	<25	<25	**830**	<25	**2,600**	<25	<25	<25	<75
NS-20i (29-34')	7/31/2012	<1.0	<1.0	<5.0	<1.0	**22**	<1.0	**2.3**	**17**	**1.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**18**	<1.0	<1.0	**130**	<3.0
NS-20d (35-40')	7/31/2012	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.6**	**2.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**59**	<1.0	<1.0	<1.0	<3.0
SS-01 (24-28')	4/15/2009	<200	<200	<1,000	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**1,500**	<200	**1,500**	<200	<200	<200	<400
SS-01 (45-49')	4/15/2009	<1.0	<1.0	<5.0	<1.0	**2.5**	<1.0	<1.0	**9.9**	<1.0	<1.0	<1.0	<1.0	<1.0	**2.7**	<1.0	**5.8**	<1.0	<1.0	<1.0	<2.0
SS-02 (20-24')	4/16/2009	<100	<100	<500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,200**	<100	**1,000**	<100	<100	<100	<200
SS-02 (42-46')	4/16/2009	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.5**	<1.0	**5.3**	<1.0	<1.0	<1.0	<2.0
SS-03 (20-24')	4/16/2009	<50	<50	<250	<50	<50	<50	<50	<50	<50	<50	<50	**120**	<50	**600**	<50	**430**	<50	<50	<50	<100
SS-04 (22-24')	4/17/2009	<100	<100	<500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,500**	<100	**1,100**	<100	<100	<100	<200
SS-05 (22-26')	4/17/2009	<100	<100	<500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,200**	<100	**1,300**	<100	<100	<100	<200
SS-06 (23-27')	4/17/2009	<200	<200	<1,000	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**2,600**	<200	**1,100**	<200	<200	<200	<400
SS-07 (22-26')	4/20/2009	<100	<100	<500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,300**	<100	**1,400**	<100	<100	<100	<200
SS-08 (23-27')	4/21/2009	<100	<100	<500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**4,100**	<100	**2,300**	<100	<100	<100	<200
SS-09s (23-28')	8/2/2012	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	**11**	<10	**790**	<10	**560**	<10	<10	<10	<30
SS-09i (34-39')	8/2/2012	<1.0	<1.0	<5.0	<1.0	**8.0**	<1.0	<1.0	**37**	**5.4**	<1.0	<1.0	<1.0	<1.0	**2.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
SS-09d (45-50')	8/2/2012	<1.0	<1.0	<5.0	<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	<1.0	<1.0	<3.0
SS-10s (22.5-27.5')	8/2/2012	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**160**	<10	**770**	<10	<10	<10	<30
SS-10i (33-38')	8/2/2012	<1.0	<1.0	<5.0	<1.0	**8.2**	<1.0	<1.0	**24**	**1.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**78**	<1.0	<1.0	<1.0	<3.0
SS-10d (50-55')	8/3/2012	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	**15**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
SB-MIP-01 (22-25')	6/23/2014	<0.50	<0.50	<5.0	<0.50	**1.9**	<0.50	**3.0**	**0.67**	<0.50	<0.50	<0.50	<0.50	<0.50	**430**	<0.50	**210**	<0.50	<0.50	<0.50	<1.5
SB-MIP-01 (25-28')	6/23/2014	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**240**	<5.0	**220**	<5.0	<5.0	<5.0	<1.5

Notes:

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Tecumseh, Michigan

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Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
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Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
SB-MIP-01 (28-31')	6/23/2014	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**3.2**	<0.50	**26**	<0.50	<0.50	<0.50	<1.5
SB-MIP-01 (31-34')	6/23/2014	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**2.3**	<0.50	<0.50	<0.50	<1.5
SB-MIP-01 (34-37')	6/23/2014	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.84**	<0.50	**1.5**	<0.50	<0.50	<0.50	<1.5
SB-MIP-01 (37.5-40.5')	6/23/2014	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.63**	<0.50	**1.0**	<0.50	<0.50	<0.50	<1.5
SB-MIP-01 (41-44')	6/23/2014	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.76**	<0.50	**1.6**	<0.50	<0.50	<0.50	<1.5
SB-MIP-01 (44-47')	6/23/2014	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.8**	<0.50	**3.9**	<0.50	<0.50	<0.50	<1.5
SB-MIP-03 (24-27')	6/24/2014	<0.50	<0.50	<5.0	<0.50	**5.0**	**0.67**	**2.8**	**24**	**1.2**	<0.50	<0.50	**3.4**	<0.50	**740**	**3.0**	**1,000**	**0.82**	<0.50	**5.1**	<0.12
SB-MIP-03 (24-27') (DUP-03)	6/24/2014	<0.50	<0.50	<5.0	<0.50	**4.9**	**0.63**	**2.9**	**24**	**1.2**	<0.50	<0.50	**3.4**	<0.50	**780**	**3.0**	**1,000**	**0.80**	<0.50	**5.1**	<1.5
SB-MIP-03 (26.5-29.5')	6/23/2014	<10	<10	<100	<10	**43**	<10	<10	**72**	<10	<10	<10	<10	<10	**620**	<10	**430**	**44**	<10	**140**	<0.12
SB-MIP-03 (29-32')	6/23/2014	<0.50	<0.50	<5.0	<0.50	**7.7**	<0.50	**1.8**	**120**	**4.2**	<0.50	<0.50	<0.50	<0.50	**7.6**	<0.50	**5.4**	**2.6**	<0.50	**74**	<0.12
SB-MIP-03 (31.5-34.5')	6/23/2014	<0.50	<0.50	<5.0	<0.50	**6.5**	**0.80**	<0.50	**210**	**7.7**	<0.50	<0.50	<0.50	<0.50	**0.54**	<0.50	**11**	<0.50	<0.50	**27**	<0.12
SB-MIP-03 (34.5-37.5')	6/24/2014	<0.50	<0.50	<5.0	<0.50	**2.7**	<0.50	<0.50	**150**	**3.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**6.1**	<0.50	<0.50	**26**	<0.12
SB-MIP-03 (37.5-40.5')	6/24/2014	<0.50	<0.50	<5.0	<0.50	**4.2**	<0.50	<0.50	**110**	**3.8**	<0.50	<0.50	<0.50	<0.50	**0.63**	<0.50	**24**	<0.50	<0.50	**5.4**	<0.12
SB-MIP-03 (40.5-43.5')	6/24/2014	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	**79**	**4.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**140**	<0.50	<0.50	**7.4**	<0.12
SB-MIP-03 (43.5-46.5')	6/23/2014	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	**230**	**6.0**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**260**	<5.0	<5.0	**46**	<0.12
SB-MIP-03 (45.5-48.5')	5/28/2015	<10	<10	<100	<10	<10	<10	<10	**260**	<10	<10	<10	<10	<10	<10	<10	**240**	<10	<10	**61**	<30
SB-MIP-05 (44-47')	5/28/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**3.8**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
SB-MIP-05 (47-50')	5/28/2015	<1.0	<1.0	<10	<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	**2.2**	<3.0
SB-MIP-05 (47-50') (DUP-14)	5/28/2015	<1.0	<1.0	<10	<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	**2.3**	<3.0
SB-MIP-10 (30-33')	5/20/2015	<200	<200	<2,000	<200	<200	<200	<200	**850**	**270**	<200	<200	<200	<200	<200	<200	**3,300**	<200	<200	<200	<600
SB-MIP-14 (26-29')	5/26/2015	<50	<50	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**120**	<50	**920**	<50	<50	<50	<150
SB-MIP-23 (13-16')	6/4/2015	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	**84**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**120**	<5.0	<5.0	<5.0	<15
SB-MIP-23 (16-19')	6/4/2015	<40	<40	<400	<40	<40	<40	<40	<40	**83**	<40	<40	<40	**62**	**54**	<40	**630**	<40	<40	<40	<120
SB-MIP-23 (19-22')	6/4/2015	<130	<130	<1,300	<130	<130	<130	<130	<130	<130	<130	<130	<130	<130	**600**	<130	**2,500**	<130	<130	<130	<380
SB-MIP-23 (21.5-24.5')	6/4/2015	<400	<400	<4,000	<400	<400	<400	<400	<400	<400	<400	<400	<400	<400	**1,000**	<400	**3,100**	<400	<400	<400	<1,200
SB-MIP-23 (24.5-27.5')	6/4/2015	<250	<250	<2,500	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	**380**	<250	**2,600**	<250	<250	<250	<750
SB-MIP-23 (27.5-30.5')	6/4/2015	<25	<25	<250	<25	**32**	<25	**29**	<25	<25	<25	<25	<25	<25	<25	<25	**390**	<25	<25	<25	<75
SB-MIP-23 (30.5-33.5')	6/4/2015	<8.0	<8.0	<80	<8.0	<8.0	<8.0	<8.0	**17**	**17**	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	**140**	<8.0	<8.0	<8.0	<24

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater at On-Site, Near Source Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,2-Dichloro-ethane[1]	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes
Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
GSI Criteria	200[2]	NC	1,100[2]	350	740	360[2]	130	620	1,500[2]	18	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Residential GWSL for Vapor Intrusion	27	91	44,000	140	4,300	41	370	83	360	700	92	94	36,000	17,000	96	10	1,700	1,200	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
SB-MIP-23 (33.5-36.5')	6/4/2015	<25	<25	<250	<25	<25	<25	<25	**32**	**82**	<25	<25	<25	<25	<25	<25	**510**	<25	<25	<25	<75
SB-MIP-23 (36.5-39.5')	6/4/2015	<250	<250	<2,500	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	**2,500**	<250	<250	<250	<750
SB-MIP-23 (39.5-42.5')	6/4/2015	<40	<40	<400	<40	<40	<40	<40	**110**	**200**	<40	<40	<40	<40	<40	<40	**520**	<40	<40	<40	<120
SB-MIP-23 (42.5-45.5')	6/4/2015	<13	<13	<130	<13	<13	<13	<13	**76**	**110**	<13	<13	<13	<13	<13	<13	**200**	<13	<13	**20**	<38
SB-MIP-25 (23-26')	6/3/2015	<25	<25	<250	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**530**	<25	**670**	<25	<25	<25	<75
SB-MIP-25 (25-28')	6/3/2015	<50	<50	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**1,000**	<50	**640**	<50	<50	<50	<150
SB-MIP-25 (27.5-30.5')	6/2/2015	<25	<25	<250	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**390**	<25	**440**	<25	<25	<25	<75
SB-MIP-25 (30.5-33.5')	6/2/2015	<5.0	<5.0	<50	<5.0	**5.3**	<5.0	<5.0	**30**	**5.5**	<5.0	<5.0	<5.0	<5.0	**10**	<5.0	**110**	<5.0	<5.0	<5.0	<15
SB-MIP-25 (33.5-36.5')	6/2/2015	<1.0	<1.0	<10	<1.0	**5.5**	<1.0	<1.0	**37**	**4.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.0**	<1.0	<1.0	<1.0	<3.0
SB-MIP-25 (37-40')	6/3/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**4.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.6**	<1.0	<1.0	<1.0	<3.0
SB-MIP-25 (40.5-43.5')	6/2/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**2.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**22**	<1.0	<1.0	<1.0	<3.0
SB-MIP-25 (40.5-43.5') (DUP-16)	6/2/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**2.8**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**25**	<1.0	<1.0	<1.0	<3.0
SB-MIP-25 (44-47')	6/2/2015	<2.5	<2.5	<25	<2.5	<2.5	<2.5	<2.5	**2.5**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**67**	<2.5	<2.5	<2.5	<7.5
SB-MIP-25 (46-49')	6/2/2015	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**210**	<10	<10	<10	<30
SB-MIP-30 (17.5-20.5')	6/9/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**810**	<100	**1,700**	<100	<100	<100	<300
SB-MIP-30 (20.5-23.5')	6/9/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**190**	<100	**1,300**	<100	<100	<100	<300
SB-MIP-30 (24-27')	6/9/2015	<20	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**460**	<20	<20	<20	<60
SB-MIP-30 (27.5-30.5')	6/9/2015	<25	<25	<250	<25	<25	<25	<25	<25	**30**	<25	<25	<25	<25	<25	<25	**550**	<25	<25	<25	<75
SB-MIP-30 (31-34')	6/9/2015	<25	<25	<250	<25	<25	<25	<25	<25	**37**	<25	<25	<25	<25	<25	<25	**740**	<25	<25	<25	<75
SB-MIP-30 (34-37')	6/9/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,000**	<100	<100	<100	<300
SB-MIP-30 (34-37') (DUP-20)	6/9/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**970**	<100	<100	<100	<300
SB-MIP-30 (37-40')	6/9/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,400**	<100	<100	<100	<300
SB-MIP-30 (40-43')	6/9/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,500**	<100	<100	<100	<300
SB-MIP-30 (43-46')	6/9/2015	<50	<50	<500	<50	<50	<50	<50	**320**	**99**	<50	<50	<50	<50	<50	<50	**1,000**	<50	<50	<50	<150
SB-MIP-35 (23.5-26.5')	5/20/2015	<25	<25	<250	<25	**30**	<25	<25	<25	<25	<25	<25	<25	<25	**420**	<25	**520**	<25	<25	<25	<75
SB-MIP-35 (25.5-28.5')	5/20/2015	<50	<50	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**720**	<50	**920**	<50	<50	<50	<150
SB-MIP-35 (28-31')	5/20/2015	<40	<40	<400	<40	<40	<40	<40	**110**	<40	<40	<40	<40	<40	**230**	<40	**810**	<40	<40	**220**	<120
SB-MIP-35 (30.5-33.5')	5/20/2015	<20	<20	<200	<20	<20	<20	<20	**69**	<20	<20	<20	<20	<20	<20	<20	**480**	<20	<20	**130**	<60

Notes:

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ug/L = micrograms per liter

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Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

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Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,2-Dichloro-ethane[1]	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes
Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
GSI Criteria	200[2]	NC	1,100[2]	350	740	360[2]	130	620	1,500[2]	18	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Residential GWSL for Vapor Intrusion	27	91	44,000	140	4,300	41	370	83	360	700	92	94	36,000	17,000	96	10	1,700	1,200	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
SB-MIP-35 (34-37')	5/20/2015	<25	<25	<250	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**460**	<25	<25	<25	<75
SB-MIP-35 (37.5-40.5')	5/20/2015	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**210**	<10	<10	<10	<30
SB-MIP-35 (40.5-43.5')	5/20/2015	<4.0	<4.0	<40	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	**75**	<4.0	<4.0	<4.0	<12
SB-MIP-35 (44-47')	5/20/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**22**	<1.0	<1.0	<1.0	<3.0
SB-MIP-38 (20-23')	5/19/2015	<100	<100	<1,000	<100	<100	<100	<100	**190**	<100	<100	<100	<100	<100	<100	<100	**1,800**	<100	<100	<100	<300
SB-MIP-38 (23-26')	5/19/2015	<200	<200	<2,000	<200	<200	<200	<200	**200**	<200	<200	<200	<200	<200	<200	<200	**5,200**	<200	<200	<200	<600
SB-MIP-38 (23-26') (DUP-11)	5/19/2015	<200	<200	<2,000	<200	<200	<200	<200	**200**	<200	<200	<200	<200	<200	<200	<200	**4,900**	<200	<200	<200	<600
SB-MIP-38 (26.5-29.5')	5/19/2015	<200	<200	<2,000	<200	<200	<200	<200	**800**	**250**	<200	<200	<200	<200	<200	<200	**9,100**	<200	<200	<200	<600
SB-MIP-38 (30.5-33.5')	5/19/2015	<100	<100	<1,000	<100	<100	<100	<100	**610**	**130**	<100	<100	<100	<100	<100	<100	**2,500**	<100	<100	<100	<300
SB-MIP-38 (34-37')	5/19/2015	<25	<25	<250	<25	<25	<25	<25	**720**	**140**	<25	<25	<25	<25	<25	<25	**600**	<25	<25	<25	<75
SB-MIP-38 (37-40')	5/19/2015	<20	<20	<200	<20	<20	<20	<20	**600**	**110**	<20	<20	<20	<20	<20	<20	**140**	<20	<20	<20	<60
SB-MIP-38 (39.5-42.5')	5/19/2015	<20	<20	<200	<20	<20	<20	<20	**500**	**78**	<20	<20	<20	<20	<20	<20	**150**	<20	<20	<20	<60
SB-MIP-38 (41.5-44.5')	5/19/2015	<20	<20	<200	<20	<20	<20	<20	**420**	**53**	<20	<20	<20	<20	<20	<20	**100**	<20	<20	<20	<60
SB-MIP-39 (26-29')	5/18/2015	<200	<200	<2,000	<200	<200	<200	<200	**1,300**	<200	<200	<200	<200	<200	<200	<200	**4,000**	<200	<200	<200	<600
SB-MIP-39 (26-29') (DUP-10)	5/18/2015	<200	<200	<2,000	<200	<200	<200	<200	**1,200**	<200	<200	<200	<200	<200	<200	<200	**3,900**	<200	<200	<200	<600
SB-MIP-40 (23.5-26.5')	5/21/2015	<25	<25	<250	<25	<25	<25	<25	**640**	<25	<25	<25	<25	<25	**250**	<25	**590**	<25	<25	**200**	<75
SB-MIP-40 (26.5-29.5')	5/21/2015	<10	<10	<100	<10	<10	<10	<10	**290**	<10	<10	<10	<10	<10	**62**	<10	**180**	<10	<10	**71**	<30
SB-MIP-40 (29.5-32.5')	5/21/2015	<1.0	<1.0	<10	<1.0	**1.3**	<1.0	<1.0	**1.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**31**	<3.0
SB-MIP-40 (32.5-35.5')	5/21/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	**1.2**	**11**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.4**	<1.0	<1.0	**22**	<3.0
SB-MIP-40 (35-38')	5/21/2015	<2.0	<2.0	<20	<2.0	<2.0	<2.0	<2.0	**11**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**56**	<2.0	<2.0	**4.7**	<6.0
SB-MIP-40 (35-38') (DUP-12)	5/21/2015	<2.0	<2.0	<20	<2.0	<2.0	<2.0	<2.0	**11**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**53**	<2.0	<2.0	**4.7**	<6.0
SB-MIP-40 (37.5-40.5')	5/21/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**34**	<1.0	<1.0	<1.0	<3.0
SB-MIP-41 (24-27')	5/26/2015	<20	<20	<200	<20	**89**	<20	<20	**21**	<20	<20	<20	<20	<20	**27**	<20	**310**	<20	<20	<20	<60
SB-MIP-41 (27.5-30.5')	5/26/2015	<10	<10	<100	<10	**86**	<10	<10	**20**	<10	<10	<10	<10	<10	<10	<10	**240**	<10	<10	**14**	<30
SB-MIP-41 (31.75-34.75')	5/26/2015	<20	<20	<200	<20	<20	<20	<20	**31**	<20	<20	<20	<20	<20	<20	<20	**320**	<20	<20	<20	<60
SB-MIP-41 (35-38')	5/26/2015	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	**55**	**18**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**110**	<5.0	<5.0	<5.0	<15
SB-MIP-41 (38.5-41.5')	5/26/2015	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	**67**	**22**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**100**	<5.0	<5.0	<5.0	<15
SB-MIP-44 (23-26')	5/26/2015	<10	<10	<100	<10	**110**	<10	<10	**40**	<10	<10	<10	<10	<10	<10	<10	**43**	<10	<10	**170**	<30

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater at On-Site, Near Source Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,2-Dichloro-ethane[1]	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	1,2,4-Trimethyl-benzene[1]	1,3,5-Trimethyl-benzene[1]	Vinyl Chloride	Total Xylenes
Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
GSI Criteria	200[2]	NC	1,100[2]	350	740	360[2]	130	620	1,500[2]	18	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Residential GWSL for Vapor Intrusion	27	91	44,000	140	4,300	41	370	83	360	700	92	94	36,000	17,000	96	10	1,700	1,200	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
SB-MIP-44 (26.5-29.5')	5/26/2015	<1.0	**2.7**	**35**	<1.0	**11**	<1.0	<1.0	**10**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.8**	**2.5**	<1.0	**73**	<3.0
SB-MIP-44 (29-32')	5/26/2015	<20	<20	<200	<20	<20	<20	<20	**250**	**40**	<20	<20	<20	<20	<20	<20	<20	**410**	<20	**53**	<60
SB-MIP-44 (31.5-34.5')	5/26/2015	<25	<25	<250	<25	<25	<25	<25	**250**	**45**	<25	<25	<25	<25	<25	<25	<25	**520**	<25	<25	<75
SB-MIP-44 (35.5-38.5')	5/26/2015	<40	<40	<400	<40	<40	<40	<40	**200**	**44**	<40	<40	<40	<40	<40	<40	<40	**500**	<40	<40	<120
SB-MIP-44 (38.5-41.5')	5/26/2015	<20	<20	<200	<20	<20	<20	<20	**350**	**61**	<20	<20	<20	<20	<20	<20	<20	**170**	<20	<20	<60
SB-MIP-46 (23.9-26.9')	5/21/2015	<25	<25	<250	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**590**	<25	**760**	<25	<25	<25	<75
SB-MIP-46 (26.9-29.9')	5/20/2015	<50	<50	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**1,300**	<50	<50	<50	<150
SB-MIP-46 (29.9-32.9')	5/20/2015	<2.0	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**59**	<2.0	<2.0	<2.0	<6.0
SB-MIP-46 (33-36')	5/20/2015	<1.0	<1.0	<10	<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	<1.0	<3.0
SB-MIP-46 (37.5-40.5')	5/20/2015	<1.0	<1.0	<10	<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	<1.0	<3.0
SB-MIP-46 (41.9-44.9')	5/20/2015	<1.0	<1.0	<10	<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	<1.0	<3.0
SB-MIP-46 (44.9-47.9')	5/20/2015	<1.0	<1.0	<10	<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	<1.0	<3.0
SB-MIP-48 (9.5-12.5')	5/26/2015	<25	<25	<250	<25	<25	<25	<25	**350**	<25	<25	<25	**1,000**	<25	**170**	**31**	**570**	<25	<25	**120**	<75
SB-MIP-48 (15-18')	5/22/2015	<100	<100	<1,000	<100	**180**	<100	**160**	**740**	<100	<100	<100	<100	<100	**1,900**	<100	**2,700**	<100	<100	<100	<300
SB-MIP-49 (18.5-21.5')	5/22/2015	<250	<250	<2,500	<250	**280**	<250	<250	<250	<250	<250	<250	<250	<250	**260**	<250	**5,400**	<250	<250	<250	<750
SB-MIP-49 (21.5-24.5')	5/22/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,600**	<100	<100	<100	<300
SB-MIP-50 (9.5-12.5')	5/28/2015	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	**19**	<10	<10	<10	**140**	<10	<10	<10	<30
SB-MIP-50 (15-18')	5/27/2015	<200	<200	<2,000	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**450**	<200	**3,600**	<200	<200	<200	<600
SB-MIP-50 (18-21')	5/27/2015	<250	<250	<2,500	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	**530**	<250	**3,800**	<250	<250	<250	<750
SB-MIP-50 (21-24')	5/27/2015	<250	<250	<2,500	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	**4,700**	<250	<250	<250	<750
SB-MIP-50 (22.5-25.5')	5/27/2015	<200	<200	<2,000	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	**4,200**	<200	<200	<200	<600
SB-MIP-50 (27.5-30.5')	5/27/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,200**	<100	<100	<100	<300
SB-MIP-50 (31.5-34.5')	5/27/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,200**	<100	<100	<100	<300
SB-MIP-50 (34.5-37.5')	5/27/2015	<40	<40	<400	<40	<40	<40	<40	**60**	**120**	<40	<40	<40	<40	<40	<40	**700**	<40	<40	<40	<120
SB-MIP-50 (36.5-39.5')	5/27/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**20**	**35**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**34**	<1.0	<1.0	**4.7**	<3.0
SB-MIP-50 (36.5-39.5') (DUP-13)	5/27/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**21**	**36**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**35**	<1.0	<1.0	**4.9**	<3.0
SB-MIP-54 (26-29')	5/22/2015	<25	<25	<250	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	**69**	<25	**520**	<25	<25	<25	<75
SB-MIP-55 (15.5-18.5')	6/2/2015	<100	<100	<1,000	<100	<100	<100	<100	**200**	<100	<100	<100	<100	<100	<100	<100	**1,600**	<100	<100	<100	<300

Notes:

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Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

Table 2
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Former Tecumseh Products Company Site
Tecumseh, Michigan

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Health-Based Residential DW Criteria	5.0	80	430	80	880	5.0	7.0	70	100	700	80	5.0	1,000	200	5.0	5.0	1,000	1,000	2.0	10,000
Health-Based Non-Residential DW Criteria	5.0	230	1,700	80	2,500	5.0	7.0	70	100	700	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
GSI Criteria	200[2]	NC	1,100[2]	350	740	360[2]	130	620	1,500[2]	18	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Residential GWSL for Vapor Intrusion	27	91	44,000	140	4,300	41	370	83	360	700	92	94	36,000	17,000	96	10	1,700	1,200	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	140	380	1.8E+05	720	18,000	210	1,600	350	1,500	2,600	390	460	1.5E+05	71,000	480	41	7,300	5,100	52	10,000
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	15,000	12,000	5.3E+05	1.3E+06	21,000	13,000[3]	56,000	61,000	1,000	1.90E+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	ug/L	ug/L	ug/L	ug/L
Sample Location and Screened Interval	Sample Collection Date																			
SB-MIP-55 (19-22')	6/2/2015	<500	<500	<5,000	<500	<500	<500	<500	**1,400**	<500	<500	<500	<500	<500	<500	<500	**8,400**	<500	<500	<500	<1,500
SB-MIP-55 (22-25')	6/2/2015	<500	<500	<5,000	<500	<500	<500	<500	**2,300**	<500	<500	<500	<500	<500	<500	<500	**8,900**	<500	<500	<500	<1,500
SB-MIP-55 (25-28')	6/2/2015	<400	<400	<4,000	<400	<400	<400	<400	**2,200**	<400	<400	<400	<400	<400	<400	<400	**5,700**	<400	<400	<400	<1,200
SB-MIP-55 (28-31')	6/2/2015	<250	<250	<2,500	<250	<250	<250	<250	**2,600**	<250	<250	<250	<250	<250	<250	<250	**4,200**	<250	<250	<250	<750
SB-MIP-55 (31-34')	6/2/2015	<100	<100	<1,000	<100	<100	<100	<100	**3,000**	**100**	<100	<100	<100	<100	<100	<100	**360**	<100	<100	<100	<300
SB-MIP-55 (32.5-35.5')	6/2/2015	<100	<100	<1,000	<100	<100	<100	<100	**2,300**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<300
SB-MIP-57 (18-21')	5/28/2015	<500	<500	<5,000	<500	<500	<500	<500	**3,600**	<500	<500	<500	<500	<500	<500	<500	**10,000**	<500	<500	<500	<1,500
SB-MIP-57 (21-24')	5/28/2015	<800	<800	<8,000	<800	<800	<800	<800	**3,500**	<800	<800	<800	<800	<800	<800	<800	**12,000**	<800	<800	<800	<2,400
SB-MIP-57 (24-27')	5/28/2015	<200	<200	<2,000	<200	<200	<200	<200	**6,000**	<200	<200	<200	<200	<200	<200	<200	**4,000**	<200	<200	<200	<600
SB-MIP-58 (24-27')	6/1/2015	<250	<250	<2,500	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	**2,400**	<250	<250	<250	<750
SB-MIP-58 (27-30')	6/1/2015	<1,000	<1,000	<10,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	**7,300**	<1,000	<1,000	<1,000	<3,000
SB-MIP-58 (30-33')	6/1/2015	<500	<500	<5,000	<500	<500	<500	<500	**1,100**	<500	<500	<500	<500	<500	<500	<500	**6,000**	<500	<500	<500	<1,500
SB-MIP-58 (33-36')	6/1/2015	<100	<100	<1,000	<100	<100	<100	<100	**1,900**	**190**	<100	<100	<100	<100	<100	<100	**1,200**	<100	<100	<100	<300
SB-MIP-58 (33-36') (DUP-15)	6/1/2015	<100	<100	<1,000	<100	<100	<100	<100	**2,000**	**200**	<100	<100	<100	<100	<100	<100	**1,300**	<100	<100	<100	<300
SB-MIP-64 (22.5-25.5')	6/4/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	<1.0	<1.0	<1.0	**27**	<1.0	<1.0	<1.0	<3.0
SB-MIP-64 (26-29')	6/4/2015	<13	<13	<130	<13	<13	<13	<13	<13	<13	<13	<13	**15**	<13	<13	<13	**180**	<13	<13	<13	<38
SB-MIP-64 (26-29') (DUP-17)	6/4/2015	<10	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	**16**	<10	<10	<10	**180**	<10	<10	<10	<30
SB-MIP-64 (29.5-32.5')	6/4/2015	<50	<50	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**610**	<50	<50	<50	<150
SB-MIP-64 (32.5-35.5')	6/4/2015	<100	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**710**	<100	<100	<100	<300
SB-MIP-64 (35.5-38.5')	6/4/2015	<10	<10	<100	<10	<10	<10	<10	**93**	**16**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<30
SB-MIP-64 (39-42')	6/4/2015	<2.5	<2.5	<25	<2.5	<2.5	<2.5	<2.5	**62**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<7.5
SB-MIP-64 (42-45')	6/4/2015	<1.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**2.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
SB-MIP-66 (39-42')	5/21/2015	<1.0	<1.0	<10	<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	<1.0	<3.0
SB-MIP-66 (42-45')	5/21/2015	<1.0	<1.0	<10	<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	<1.0	<3.0
SB-MIP-66 (45-48')	5/21/2015	<1.0	<1.0	<10	<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	<1.0	<3.0
SB-MIP-66 (48-51')	5/21/2015	<1.0	<1.0	<10	<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	<1.0	<3.0

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit

Denotes concentrations above one or more criteria

1) Compound may exhibit characteristic ignit

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

Table 3
Predicted TCE Concentrations at MIP Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Boring Location and Sample Depth (feet)	Maximum ECD Response (Volts)	Calculated Upper Bound 90th Percentile Trichloroethene Concentration (ug/L)
MIP-02 (23-28')	516,373	230
MIP-02 (28-35')	1,022,752	450
MIP-02 (35-49')	467,925	<220
MIP-04 (23-28')	1,220,740	530
MIP-04 (28-42')	1,025,422	450
MIP-04 (42-60')	312,510	<220
MIP-05 (18-24')	1,254,921	550
MIP-05 (24-30')	1,215,857	530
MIP-05 (30-44')	346,690	<220
MIP-06 (21-25')	1,093,783	480
MIP-06 (25-28')	1,796,930	790
MIP-06 (28-31')	5,390,790	2,360
MIP-06 (31-38')	1,718,802	750
MIP-07 (23-26')	1,093,783	480
MIP-07 (26-30')	2,812,586	1,230
MIP-07 (30-35')	2,500,076	1,100
MIP-07 (35-38')	1,171,911	510
MIP-07 (38-46')	360,729	<220
MIP-08 (22-26')	1,658,376	730
MIP-08 (26-45')	340,587	<220
MIP-09 (23-26')	4,564,958	2,000
MIP-09 (26-28')	849,635	370
MIP-09 (28-31')	278,329	<220
MIP-09 (31-35')	2,133,854	930
MIP-09 (35-39')	1,718,802	750
MIP-09 (39-42')	585,955	260
MIP-10 (19-27')	453,505	<220
MIP-10 (27-30')	4,990,386	2,190
MIP-10 (33-36')	5,166,174	2,260
MIP-10 (36-39')	3,955,199	1,730
MIP-11 (19-22')	920,438	400
MIP-11 (22-26')	1,955,626	860
MIP-11 (26-29')	622,578	270
MIP-11 (29-33')	253,914	<220
MIP-12 (19-23')	1,223,182	540
MIP-12 (23-25')	817,896	360
MIP-12 (25-28')	276,498	<220
MIP-12 (28-30')	1,217,688	530
MIP-12 (30-38')	429,090	<220
MIP-13 (15-20')	445,570	<220
MIP-13 (20-25')	663,472	290
MIP-13 (25-35')	271,615	<220
MIP-14 (23-26')	2,327,952	1,020
MIP-14 (29-32')	1,280,557	560

Table 3
Predicted TCE Concentrations at MIP Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Boring Location and Sample Depth (feet)	Maximum ECD Response (Volts)	Calculated Upper Bound 90th Percentile Trichloroethene Concentration (ug/L)
MIP-14 (32-38')	622,578	270
MIP-14 (38-53')	284,432	<220
MIP-15 (23-27')	15,746,330	6,900
MIP-15 (27-34')	1,632,130	710
MIP-15 (34-38')	1,364,788	600
MIP-15 (38-46')	526,139	230
MIP-16 (23-27')	15,745,110	6,900
MIP-16 (27-29')	3,552,354	1,560
MIP-16 (29-34')	2,175,359	950
MIP-16 (34-39')	321,055	<220
MIP-16 (39-43')	2,963,958	1,300
MIP-16 (43-47')	1,223,182	540
MIP-16 (47-60')	374,767	<220
MIP-17 (23-25')	4,641,255	2,030
MIP-17 (25-28')	1,420,942	620
MIP-17 (28-32')	571,306	250
MIP-17 (32-48')	141,606	<220
MIP-18 (16-38')	390,637	<220
MIP-19 (14-18')	791,421	350
MIP-19 (18-21')	5,572,680	2,440
MIP-19 (21-24')	15,762,199	6,900
MIP-19 (24-27')	14,687,948	6,430
MIP-19 (27-30')	10,000,305	4,380
MIP-19 (30-33')	4,140,751	1,810
MIP-19 (33-36')	4,140,751	1,810
MIP-19 (36-39')	15,625,477	6,840
MIP-19 (39-42')	3,593,860	1,570
MIP-19 (42-45')	703,146	310
MIP-20 (23-25')	1,831,111	800
MIP-20 (25-28')	11,470,077	5,020
MIP-20 (28-31')	5,050,203	2,210
MIP-20 (31-34')	583,514	260
MIP-20 (34-60')	263,680	<220
MIP-21 (24-44')	145,268	<220
MIP-22 (12-17')	328,379	<220
MIP-22 (17-20')	2,353,588	1,030
MIP-22 (20-24')	3,977,172	1,740
MIP-22 (24-27')	1,367,229	600
MIP-22 (27-47')	369,884	<220
MIP-24 (12-16')	325,938	<220
MIP-24 (16-20')	556,047	240
MIP-24 (20-24')	995,514	440
MIP-24 (24-27')	3,877,682	1,700
MIP-24 (27-32')	1,739,555	760

Table 3
Predicted TCE Concentrations at MIP Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Boring Location and Sample Depth (feet)	Maximum ECD Response (Volts)	Calculated Upper Bound 90th Percentile Trichloroethene Concentration (ug/L)
MIP-24 (32-36')	2,482,986	1,090
MIP-24 (36-40')	2,118,595	930
MIP-26 (22-25')	3,411,970	1,490
MIP-26 (25-28')	1,934,874	850
MIP-26 (28-31')	2,606,281	1,140
MIP-26 (31-35')	826,441	360
MIP-26 (35-58')	371,105	<220
MIP-27 (22-26')	412,610	<220
MIP-27 (26-30')	3,206,885	1,400
MIP-27 (30-34')	568,865	250
MIP-27 (34-49')	185,553	<220
MIP-28 (17-25')	1,682,180	740
MIP-28 (25-34')	809,351	350
MIP-28 (34-37')	946,074	410
MIP-28 (37-43')	5,114,902	2,240
MIP-28 (43-47')	1,297,647	570
MIP-29 (17-21')	1,052,278	460
MIP-29 (21-24')	7,380,596	3,230
MIP-29 (24-29')	2,631,916	1,150
MIP-29 (29-33')	1,868,954	820
MIP-29 (33-37')	2,970,061	1,300
MIP-29 (37-40')	6,624,958	2,900
MIP-29 (40-43')	4,914,701	2,150
MIP-29 (43-46')	2,716,148	1,190
MIP-29 (46-50')	781,274	340
MIP-31 (20-24')	523,698	230
MIP-31 (24-28')	2,314,524	1,010
MIP-31 (28-32')	4,122,440	1,810
MIP-31 (32-36')	1,745,659	760
MIP-31 (36-40')	479,751	<220
MIP-32 (20-24')	816,675	360
MIP-32 (24-29')	4,343,394	1,900
MIP-32 (29-34')	12,629,780	5,530
MIP-32 (34-38')	6,908,170	3,030
MIP-32 (38-41')	628,681	280
MIP-33 (20-23')	244,148	<220
MIP-33 (23-28')	2,806,482	1,230
MIP-33 (28-31')	5,168,615	2,260
MIP-33 (31-34')	6,268,502	2,750
MIP-33 (34-40')	1,105,991	480
MIP-34 (23-31')	1,064,486	470
MIP-34 (31-36')	3,830,683	1,680
MIP-34 (36-42')	4,781,640	2,090
MIP-34 (42-47')	3,164,159	1,390

Table 3
Predicted TCE Concentrations at MIP Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Boring Location and Sample Depth (feet)	Maximum ECD Response (Volts)	Calculated Upper Bound 90th Percentile Trichloroethene Concentration (ug/L)
MIP-36 (15-19')	4,359,264	1,910
MIP-36 (19-25')	15,757,317	6,900
MIP-36 (25-28')	4,615,619	2,020
MIP-36 (28-33')	312,510	<220
MIP-37 (15-20')	1,094,317	480
MIP-37 (20-23')	10,063,784	4,410
MIP-37 (23-27')	5,907,162	2,590
MIP-37 (27-32')	273,446	<220
MIP-39 (20-23')	3,825,800	1,680
MIP-39 (23-26')	8,329,112	3,650
MIP-39 (29-34')	8,766,137	3,840
MIP-39 (34-37')	4,699,850	2,060
MIP-39 (37-41')	1,369,671	600
MIP-42 (23-28')	6,866,664	3,010
MIP-42 (28-35')	4,051,637	1,770
MIP-42 (35-42')	677,511	300
MIP-43 (23-27')	3,381,451	1,480
MIP-43 (27-31')	253,914	<220
MIP-43 (31-36')	4,050,416	1,770
MIP-43 (36-41')	480,972	<220
MIP-45 (23-26')	562,761	250
MIP-45 (26-31')	2,232,734	980
MIP-45 (31-35')	679,952	300
MIP-45 (35-51')	81,790	<220
MIP-47 (12-19')	942,106	410
MIP-47 (19-27')	4,919,584	2,150
MIP-47 (27-43')	382,092	<220
MIP-48 (7-10')	2,757,652	1,210
MIP-48 (12-15')	7,575,915	3,320
MIP-48 (18-21')	4,249,398	1,860
MIP-48 (21-25')	1,521,042	670
MIP-48 (25-39')	430,921	<220
MIP-49 (8-13')	708,029	310
MIP-49 (13-18')	6,239,204	2,730
MIP-49 (25-29')	4,592,426	2,010
MIP-49 (29-40')	288,095	<220
MIP-51 (24-29')	2,014,222	880
MIP-51 (29-32')	567,644	250
MIP-51 (32-46')	122,074	<220
MIP-52 (24-28')	1,585,742	690
MIP-52 (28-45')	399,182	<220
MIP-53 (24-30')	711,692	310
MIP-53 (30-33')	2,911,466	1,280
MIP-53 (33-37')	681,173	300

Table 3
Predicted TCE Concentrations at MIP Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Boring Location and Sample Depth (feet)	Maximum ECD Response (Volts)	Calculated Upper Bound 90th Percentile Trichloroethene Concentration (ug/L)
MIP-53 (37-50')	133,061	<220
MIP-54 (22-26')	1,076,693	470
MIP-54 (29-32')	947,295	410
MIP-54 (32-45')	161,138	<220
MIP-56 (15-18')	150,151	<220
MIP-56 (18-22')	10,028,382	4,390
MIP-56 (22-25')	971,709	430
MIP-56 (25-35')	147,710	<220
MIP-57 (14-18')	2,033,753	890
MIP-57 (27-32')	3,339,946	1,460
MIP-58 (18-24')	704,367	310
MIP-58 (36-40')	1,652,882	720
MIP-59 (19-25')	824,000	360
MIP-59 (25-30')	4,616,840	2,020
MIP-59 (30-34')	2,325,510	1,020
MIP-59 (34-38')	698,264	310
MIP-59 (38-42')	346,690	<220
MIP-60 (14-23')	1,422,162	620
MIP-60 (23-50')	220,954	<220
MIP-61 (17-23')	540,788	240
MIP-61 (23-30')	1,204,871	530
MIP-61 (30-54')	155,034	<220
MIP-62 (18-25')	253,914	<220
MIP-62 (25-28')	1,939,756	850
MIP-62 (28-31')	3,999,146	1,750
MIP-62 (31-44')	167,241	<220
MIP-63 (9-26')	211,188	<220
MIP-65 (23-27')	1,145,054	500
MIP-65 (27-34')	1,452,681	640
MIP-65 (34-53')	241,707	<220
MIP-66 (23-27')	690,939	300
MIP-66 (27-34')	623,798	270
MIP-66 (34-39')	356,456	<220
MIP-67 (23-31')	972,930	430
MIP-67 (31-48')	235,603	<220
MIP-68 (23-28')	1,461,226	640
MIP-68 (28-33')	2,371,899	1,040
MIP-68 (33-38')	1,499,069	660
MIP-68 (38-48')	300,302	<220

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-01 (26-30')	3/9/2009	<20	<1.0	<5.0	<1.0	**26**	**1.0**	**5.9**	**120**	**12**	<1.0	<1.0	**5.3**	<1.0	<1.0	**200**	<1.0	<3.0
B-01 (46-50')	3/9/2009	<20	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.2**	<1.0	<1.0	**6.8**	**5.0**	<3.0
B-02 (22-26')	3/10/2009	<20	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.8**	**27**	<3.0
B-02 (33-37')	3/10/2009	<20	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.0**	**16**	<3.0
B-03 (26-30')	3/9/2009	<20	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.6**	<1.0	<1.0	<1.0	**1.4**	<3.0
B-03 (38-42')	3/9/2009	<20	<1.0	<5.0	<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	<3.0
B-04 (19-23')	3/10/2009	<20	<1.0	<5.0	<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	<21	<1.0	<5.0	<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	<20	<1.0	<5.0	<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	<20	<1.0	<5.0	<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	<20	<1.0	<5.0	<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	<20	<1.0	<5.0	<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	<3.0
B-07 (44-48')	3/16/2009	<20	**3.5**	<5.0	<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	<20	<1.0	<5.0	<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	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**57**	<1.0	<2.0
B-11 (29-33')	4/16/2009	--	--	<5.0	--	<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	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.5**	<1.0	<2.0
B-12 (24-28') (DUP-05)	4/16/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.2**	<1.0	<2.0
B-13 (29-33')	4/17/2009	--	--	<5.0	--	<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	--	--	<5.0	--	<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	--	--	<500	--	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,100**	<100	<200
B-14 (36-40')	4/14/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.4**	<1.0	<2.0
B-15 (24-28')	4/20/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.5**	<1.0	**9.9**	<1.0	**2.8**	<1.0	<2.0
B-15 (44-48')	4/20/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**8.7**	<1.0	<2.0
B-17 (24-28')	4/20/2009	--	--	<5.0	--	<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	--	--	<5.0	--	<1.0	<1.0	<1.0	**2.3**	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	<1.0	<2.0
B-18 (32-36')	4/14/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	<1.0	<2.0
B-19 (12-16')	4/15/2009	--	--	<5.0	--	<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

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	**Sample Collection Date**																
B-19 (29-33')	4/15/2009	--	--	<5.0	--	<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	--	--	<5.0	--	<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	--	--	<5.0	--	<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	--	--	<5.0	--	**3.3**	<1.0	<1.0	**3.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.9**	**1.0**	<2.0
B-21 (13-17')	4/15/2009	--	--	<5.0	--	**8.1**	<1.0	<1.0	**13**	**2.2**	<1.0	<1.0	<1.0	**3.6**	<1.0	**30**	**58**	<2.0
B-22 (18-23')	4/14/2009	--	--	<100	--	<20	<20	<20	<20	<20	<20	<20	<20	**53**	<20	**190**	<20	<40
B-22 (40-44')	4/14/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	**13**	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	**3.0**	<1.0	<2.0
B-23 (14-18')	4/13/2009	--	--	<20	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**4.8**	<2.0	<2.0	**23**	<2.0	<6.0
B-23 (14-18') (DUP 01)	4/13/2009	--	--	<20	--	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**5.0**	<2.0	<2.0	**26**	<2.0	<6.0
B-23 (30-34')	4/13/2009	--	--	<2,500	--	<250	<250	<250	**5,500**	<250	<250	<250	<250	<250	<250	**1,700**	<250	<750
B-23b (14-16')[4]	4/15/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.7**	<1.0	<1.0	<1.0	**8.9**	<1.0	<2.0
B-24 (6-10')	4/13/2009	--	--	<50	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**150**	<5.0	<15
B-24 (28-32')	4/13/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.6**	**6.7**	<2.0
B-24b (5-7')[4]	4/16/2009	--	--	<100	--	<20	<20	<20	<20	<20	<20	<20	<20	**29**	<20	**740**	<20	<40
B-24b (5-7') (DUP-04)	4/16/2009	--	--	<100	--	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**770**	<50	<100
B-25 (7-11')	4/17/2009	--	--	<5.0	--	<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-25 (7-11') (DUP-06)	4/17/2009	--	--	<5.0	--	<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-25 (31-35')	4/17/2009	--	--	<5.0	--	<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-26 (16-20')	4/14/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	**3.2**	<1.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<1.0	**3.1**	<2.0
B-26 (29-33')	4/14/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	**7.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**140**	<2.0
B-27b (8-10')[4]	4/15/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**9.2**	<1.0	<2.0
B-28b (16-18')[4]	4/16/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.7**	<2.0
B-29 (8-12')	4/13/2009	--	--	<5.0	--	<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-29 (38-42')	4/13/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	**1.1**
B-29b[4]	11/24/2009	<40	<2.0	<10	<10	**27**	<2.0	<2.0	**6.2**	<2.0	<2.0	**210**	<2.0	**77**	<2.0	**76**	<2.0	<6.0
B-30 (6-11')	4/14/2009	--	--	<5.0	--	**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	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**
B-30 (30-34') (DUP-02)	4/14/2009	--	--	<5.0	--	<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

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3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

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Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	**Sample Collection Date**																
B-31 (10-14')	4/13/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7.4**	<1.0	<1.0	<1.0	**8.1**	<2.0
B-31 (25-29')	4/13/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.7**	<1.0	<1.0	<1.0	**390**	<2.0
B-32 (10-14')	4/14/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	**13**	<1.0	<1.0	<1.0	**1.6**	<1.0	<1.0	<1.0	**430**	<2.0
B-32 (25-29')	4/14/2009	--	--	<500	--	<100	<100	<100	**1,200**	<100	<100	<100	<100	<100	<100	<100	**360**	<200
B-32b (8.5-10.5')[4]	4/15/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	**3.4**	<1.0	<1.0	**1.7**	<1.0	**2.1**	<1.0	**13**	**1.6**	<2.0
B-33 (4-8')	4/15/2009	--	--	<5.0	--	<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-33 (4-8') (DUP-03)	4/15/2009	--	--	<5.0	--	<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-33 (17-21')	4/15/2009	--	--	<5.0	--	<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-33b[4]	11/24/2009	<20	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.7**	<1.0	<3.0
B-34 (14-18')	4/20/2009	--	--	<5.0	--	<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-34 (41-45')	4/20/2009	--	--	<5.0	--	<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-35 (5-9')	4/20/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<2.0
B-35 (5-9') (DUP-07)	4/20/2009	--	--	<5.0	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<2.0
B-35 (11-16')	9/17/2010	<20	<1.0	<5.0	<5.0	**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	--	--	<50	--	<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	<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	<1.0	<3.0
B-36 (16-20') (DUP-01)	5/13/2009	--	<1.0	<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	<1.0	<1.0	**1.3**	<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	<1.0	<1.0	**1.1**	<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	<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	<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	<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	<1.0	<3.0
B-45 (10-12')	2/22/2011	<20	<1.0	<1.0	<5.0	<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	<20	<1.0	<1.0	<5.0	<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	<20	<1.0	<1.0	<5.0	<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	<20	<1.0	<1.0	<5.0	<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

Notes:
Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-46 (14-16')	2/22/2011	<20	<1.0	<1.0	<5.0	<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	<20	<1.0	<1.0	<5.0	<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	<20	<1.0	<1.0	<5.0	**15**	<1.0	**1.1**	**73**	**6.7**	<1.0	<1.0	<1.0	<1.0	<1.0	**6.4**	**100**	<1.0	**2.3**
B-47 (7.75-9.75') (DUP-01)	2/22/2011	<20	<1.0	<1.0	<5.0	**14**	<1.0	<1.0	**71**	**6.9**	<1.0	<1.0	<1.0	<1.0	<1.0	**6.8**	**97**	<1.0	<3.0
B-47 (14-16')	2/22/2011	<20	<1.0	<1.0	<5.0	<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	<20	<1.0	<1.0	<5.0	<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	<20	<1.0	<1.0	<5.0	**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	<20	<1.0	<1.0	<5.0	**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	<20	<1.0	<1.0	<5.0	<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	<100	<5.0	<25	<25	**8.2**	<5.0	<5.0	**33**	<5.0	<5.0	<5.0	<5.0	**9.0**	<5.0	**760**	<5.0	<15
B-49 (19.5-21.5')	2/22/2011	<200	<10	<50	<50	<10	<10	<10	**31**	<10	<10	<10	<10	**49**	<10	**1,600**	<10	<30
B-50 (7-9')	2/23/2011	<100	<5.0	<25	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**33**	<5.0	**710**	<5.0	<15
B-50 (13-15')	2/23/2011	<1000	<50	<250	<250	<50	<50	<50	<50	<50	<50	<50	<50	**100**	<50	**5,400**	<50	<150
B-50 (20-22')	2/23/2011	<20	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	**6.5**	<3.0
B-50 (20-22') (DUP-02)	2/23/2011	<20	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	**7.0**	<3.0
B-51 (7-9')	2/23/2011	<100	<5.0	<25	<25	<5.0	<5.0	<5.0	**13**	<5.0	<5.0	<5.0	<5.0	**25**	<5.0	**580**	<5.0	<15
B-51 (13-15')	2/23/2011	<200	<10	<50	<50	**36**	<10	**140**	**87**	<10	<10	<10	<10	**260**	<10	**1,600**	<10	<30
B-51 (20-22')	2/23/2011	<200	<10	<50	<50	<10	<10	<10	**23**	**24**	<10	<10	<10	<10	<10	**970**	**62**	<30
B-52 (7-9')	2/23/2011	<10000	<500	<2,500	<2,500	**930**	<500	<500	**520**	<500	**4,400**	<500	**85,000**	**2,900**	<500	**2,900**	<500	**43,000**
B-52 (13-15')	2/23/2011	<200	<10	<50	<50	**57**	<10	<10	**71**	<10	**430**	<10	**120**	<10	<10	**30**	**270**	**1,300**
B-52 (20-22')	2/23/2011	<100	<5.0	<25	<25	<5.0	<5.0	<5.0	**140**	**16**	<5.0	<5.0	<5.0	<5.0	<5.0	**440**	<5.0	<15
B-53 (18-20')	2/23/2011	<20	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**120**	<1.0	<3.0
B-53 (24-26')	2/23/2011	<20	<1.0	<5.0	<5.0	<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	<20	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<1.0	<3.0
B-54 (26-28')	2/23/2011	<20	<1.0	<5.0	<5.0	<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	<50	<50	<10	<10	**66**	<10	<10	**46**	<10	**620**	<10	**16**	**84**	<10	**90**	<10	**5,300**
B-59 (7-12')	4/1/2011	<1200	<1,200	**970**	<250	**680**	<250	<250	**580**	<250	**2,500**	<250	**41,000**	**1,400**	<250	**960**	<250	**24,000**
B-60 (7-12')	4/1/2011	<2500	<2,500	**1,300**	<500	**2,100**	<500	<500	**1,500**	<500	**4,700**	<500	**55,000**	**4,900**	<500	**1,900**	<500	**48,000**

Notes:
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Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
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Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-61 (7-12')	4/1/2011	<2500	<2,500	<500	<500	<500	<500	<500	<500	<500	**5,200**	<500	**61,000**	**1,000**	<500	**1,200**	<500	**41,000**
B-62 (7-12')	4/1/2011	<5	<5.0	<1.0	<1.0	**13**	<1.0	**2.5**	**46**	**1.2**	**1.4**	<1.0	<1.0	**190**	<1.0	**590**	<1.0	<3.0
B-63 (7-12')	4/1/2011	<1000	<1,000	<200	<200	<200	<200	<200	<200	<200	**3,800**	<200	**21,000**	<200	<200	**210**	<200	**30,000**
B-63 (7-12') (DUP-01)	4/1/2011	<1200	<1,000	<200	<200	<200	<200	<200	<200	<200	**3,800**	<200	**21,000**	<200	<200	<200	<200	**31,000**
B-64 (7-12')	4/1/2011	<250	<1,200	<250	<250	**1,000**	<250	<250	**450**	<250	**9,300**	<250	**18,000**	**1,200**	<250	**570**	<250	**59,000**
B-65 (7-12')	4/1/2011	<250	<250	<50	<50	<50	<50	<50	**140**	<50	**3,200**	<50	**90**	<50	<50	<50	**56**	**23,000**
B-66 (7-12')	4/1/2011	<25	<250	<50	<50	**110**	<50	<50	<50	<50	**2,500**	<50	<50	<50	<50	<50	<50	**28,000**
B-67 (7-12')	4/1/2011	<400	<25	<5.0	<5.0	**34**	<5.0	<5.0	**83**	<5.0	**140**	<5.0	<5.0	**75**	<5.0	**58**	**9.6**	**1,300**
B-68 (14.5-16.5')	7/24/2012	<1000	<20	<100	<100	<20	<20	<20	**28**	<20	<20	<20	<20	**1,200**	<20	**1,900**	<20	--
B-68 (20.7-22.7')	7/24/2012	<1000	<50	<250	<250	<50	<50	**130**	<50	<50	<50	<50	<50	**5,300**	<50	**4,200**	<50	<150
B-68 (27.7-29.7')	7/24/2012	<500	<25	<250	<125	<25	<25	<25	**51**	**89**	<25	<25	<25	<25	<25	**2,800**	<25	<75
B-70 (14-17')	4/28/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**60**	**6.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**18**	<3.0
B-70 (17.5-20.5')	4/28/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**55**	**5.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**27**	<3.0
B-70 (21-24')	4/28/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**31**	**3.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**14**	<3.0
B-70 (24-27')	4/28/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**4.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7.8**	<3.0
B-70 (27-30')	4/28/2015	<80	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**53**	<6.0
B-70 (30-33')	4/28/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**67**	<15
B-70 (33-36')	4/28/2015	<400	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**320**	<30
B-70 (36-39')	4/28/2015	<400	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**330**	<30
B-71 (14-17')	4/29/2015	<80	<2.0	<20	<2.0	<2.0	<2.0	<2.0	**44**	**4.9**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0
B-71 (17-20')	4/29/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<3.0
B-71 (20.5-23.5')	4/29/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**27**	<3.0
B-71 (23.5-26.5')	4/29/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<300
B-71 (26.5-29.5')	4/29/2015	<200	**5.0**	<50	**5.0**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**1,200**	<15
B-71 (29.5-32.5')	4/29/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**600**	<60
B-71 (32.5-35.5')	4/29/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**520**	<60
B-72 (12.5-15.5')	4/30/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**15**	**2.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

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Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-72 (16-19')	4/30/2015	<80	<2.0	<20	<2.0	<2.0	<2.0	<2.0	**11**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**34**	<6.0
B-72 (19.5-22.5')	4/29/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**660**	<60
B-72 (19.5-22.5') (DUP-01)	4/29/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**720**	<60
B-72 (22.5-25.5')	4/29/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,300**	<300
B-72 (25.5-28.5')	4/30/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,300**	<300
B-72 (28.5-31.5')	4/29/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,400**	<300
B-72 (31.5-34.5')	4/29/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,400**	<300
B-73 (14-17')	4/30/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**4.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-73 (17-20')	4/30/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**3.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-73 (20-23')	4/30/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**1.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.9**	<3.0
B-73 (23-26')	4/30/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**830**	<60
B-73 (26-29')	4/30/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,600**	<300
B-73 (29-32')	4/30/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**170**	<15
B-73 (32-35')	4/30/2015	<40	<1.0	<10	<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-74 (14-17')	5/1/2015	<40	<1.0	<10	<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-74 (17.5-20.5')	5/1/2015	<40	<1.0	<10	<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-74 (21-24')	5/1/2015	<40	<1.0	<10	<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-74 (24-27')	5/1/2015	<40	<1.0	<10	<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-74 (27-30')	5/1/2015	<40	<1.0	<10	<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-74 (30-33')	5/1/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.7**	<3.0
B-74 (33-36')	5/1/2015	<400	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**390**	<30
B-74 (36-39')	5/1/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**950**	<60
B-75 (14-17')	5/4/2015	<800	<20	<200	<20	<20	<20	<20	**550**	**63**	<20	<20	<20	<20	<20	<20	<20	<60
B-75 (17-20')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**1,900**	**170**	<100	<100	<100	<100	<100	<100	<100	<300
B-75 (20.5-23.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**3,000**	<100	<100	<100	<100	<100	<100	<100	<100	<300
B-75 (23.5-26.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**6,500**	<100	<100	<100	<100	<100	<100	<100	**110**	<300
B-75 (26.5-29.5')	5/4/2015	<800	<20	<200	<20	<20	<20	<20	**350**	<20	<20	<20	<20	<20	<20	<20	**490**	<60
B-75 (29.5-32.5')	5/4/2015	<800	<20	<200	<20	<20	<20	<20	**690**	<20	<20	<20	<20	<20	<20	<20	**670**	<60

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Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
B-75 (32.5-35.5')	5/4/2015	<8000	<200	<2,000	<200	<200	<200	<200	**5,900**	<200	<200	<200	<200	<200	<200	<200	**470**	<600
B-76 (14-17')	5/4/2015	<800	<20	<200	<20	<20	<20	<20	**150**	<20	<20	<20	<20	**24**	<20	**660**	<20	<60
B-76 (17-20')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**450**	<100	<100	<100	<100	<100	<100	**970**	<100	<300
B-76 (20.5-23.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**1,700**	**120**	<100	<100	<100	<100	<100	<100	<100	<300
B-76 (23.5-26.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**3,600**	**190**	<100	<100	<100	<100	<100	<100	<100	<300
B-76 (26.5-29.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**3,900**	**220**	<100	<100	<100	<100	<100	<100	**210**	<300
B-76 (29.5-32.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**4,600**	**240**	<100	<100	<100	<100	<100	<100	**240**	<300
B-76 (29.5-32.5') (DUP-02)	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**4,600**	**230**	<100	<100	<100	<100	<100	<100	**220**	<300
B-76 (32.5-35.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**3,600**	**170**	<100	<100	<100	<100	<100	<100	**240**	<300
B-76 (35.5-38.5')	5/4/2015	<8000	<200	<2,000	<200	<200	<200	<200	**4,000**	<200	<200	<200	<200	<200	<200	<200	<200	<600
B-76 (38.5-41.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**4,500**	<100	<100	<100	<100	<100	<100	<100	<100	<300
B-76 (41.5-44.5')	5/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	**3,600**	<100	<100	<100	<100	<100	<100	<100	<100	<300
B-77 (17-20')	5/5/2015	<40	<1.0	<10	<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-77 (20.5-23.5')	5/5/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**4.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.3**	<3.0
B-77 (24-27')	5/5/2015	<80	<2.0	<20	<2.0	<2.0	<2.0	<2.0	**12**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**41**	<6.0
B-77 (27-30')	5/5/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	**5.6**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**61**	<15
B-77 (27-30') (DUP-03)	5/5/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	**6.0**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**66**	<15
B-77 (30-33')	5/5/2015	<40	<1.0	<10	<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**	<3.0
B-77 (33-36')	5/5/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**74**	<15
B-77 (36-39')	5/5/2015	<80	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**39**	<6.0
B-77 (39-42')	5/5/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**9.5**	<3.0
B-77 (42.1-45.1')	5/5/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7.6**	<3.0
B-78 (19-22')	5/6/2015	<40	<1.0	<10	<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-78 (21.5-24.5')	5/6/2015	<40	<1.0	<10	<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-78 (24.5-27.5')	5/6/2015	<40	<1.0	<10	<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-78 (27.5-30.5')	5/6/2015	<40	<1.0	<10	<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-78 (30.5-33.5')	5/5/2015	<40	<1.0	<10	<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-78 (33.5-36.5')	5/5/2015	<40	<1.0	<10	<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**	<3.0

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Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-78 (36.5-39.5')	5/5/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.0**	<3.0
B-78 (39.5-42.5')	5/5/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<3.0
B-78 (42.5-45.5')	5/5/2015	<40	<1.0	<10	<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-79 (6.5-9.5')	5/7/2015	<40	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**81**	<2.0	**20**	<2.0	<6.0
B-79 (9-12')	5/7/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**33**	<1.0	**15**	<1.0	<3.0
B-79 (12-15')	5/6/2015	<40	<1.0	<10	<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-79 (15-18')	5/6/2015	<40	<1.0	<10	<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-79 (18-21')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7.0**	<3.0
B-79 (21-24')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.1**	<3.0
B-79 (24-27')	5/7/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.2**	<3.0
B-79 (27-30')	5/7/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.1**	<3.0
B-79 (30-33')	5/7/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.3**	<3.0
B-79 (33-36')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.4**	<3.0
B-79 (36-39')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.8**	<3.0
B-79 (39-42')	5/6/2015	<80	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**1.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7.2**	<3.0
B-79 (41.5-44.5')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**5.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**13**	<3.0
B-80 (6-9')	5/7/2015	<40	<1.0	<10	<1.0	**2.3**	<1.0	<1.0	**1.2**	<1.0	<1.0	**19**	<1.0	**130**	<1.0	**160**	<1.0	<3.0
B-80 (9-12')	5/7/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	**69**	<20	**74**	<20	**900**	<20	<60
B-80 (12-15')	5/7/2015	<4000	<100	<1,000	<100	<100	<100	<100	**280**	<100	<100	<100	<100	**230**	<100	**1,600**	<100	<300
B-80 (15-18')	5/6/2015	<400	<10	<100	<10	<10	<10	<10	**360**	**38**	<10	<10	<10	<10	<10	<10	<10	<30
B-80 (18-21')	5/6/2015	<400	<10	<100	<10	<10	<10	<10	**180**	**11**	<10	<10	<10	<10	<10	<10	<10	<30
B-80 (21-24')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**31**	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-80 (24-27')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	<3.0
B-80 (27-30')	5/7/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	<3.0
B-80 (30-33')	5/6/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**4.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.6**	<3.0
B-80 (33-36')	5/6/2015	<800	<20	<200	<20	<20	<20	<20	**650**	<20	<20	<20	<20	<20	<20	**40**	<20	<60
B-80 (36-39')	5/6/2015	<4000	<100	<1,000	<100	<100	<100	<100	**2,100**	<100	<100	<100	<100	<100	<100	**660**	<100	<300
B-80 (36-39') (DUP-04)	5/6/2015	<4000	<100	<1,000	<100	<100	<100	<100	**2,200**	<100	<100	<100	<100	<100	<100	**800**	<100	<300

Notes:
Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-80 (39-42')	5/6/2015	<400	<10	<100	<10	<10	<10	<10	**3,000**	**21**	<10	<10	<10	<10	<10	**910**	**41**	<30
B-80 (41.5-44.5')	5/6/2015	<400	<10	<100	<10	<10	<10	<10	**2,900**	**22**	<10	<10	<10	<10	<10	**840**	**43**	<30
B-81 (6.5-9.5')	5/7/2015	<2000	<50	<500	<50	<50	<50	**50**	**1,800**	<50	<50	**50**	<50	<50	<50	**50**	**1,200**	<150
B-81 (9-12')	5/7/2015	<8000	<200	<2,000	<200	<200	<200	<200	**7,200**	<200	<200	**15,000**	<200	<200	<200	**8,900**	**990**	<600
B-81 (12-15')	5/7/2015	<4000	<100	<1,000	<100	<100	<100	<100	**1,500**	<100	<100	**15,000**	<100	<100	<100	**4,500**	**970**	<300
B-81 (15-18')	5/7/2015	<2000	<50	<500	<50	<50	<50	<50	**1,500**	<50	<50	**57**	<50	<50	<50	**2,600**	**72**	<150
B-81 (18-21')	5/7/2015	<4000	<100	<1,000	<100	<100	<100	<100	**2,900**	<100	<100	<100	<100	<100	<100	**100**	**130**	<300
B-81 (21-24')	5/7/2015	<2000	<50	<500	<50	<50	<50	<50	**1,100**	<50	<50	<50	<50	<50	<50	**540**	<50	<150
B-81 (24-27')	5/7/2015	<400	<10	<100	<10	<10	<10	<10	**350**	**32**	<10	<10	<10	<10	<10	**750**	<10	<30
B-81 (27-30')	5/7/2015	<2000	<50	<500	<50	<50	<50	<50	**740**	<50	<50	<50	<50	<50	<50	**1,500**	<50	<150
B-81 (30-33')	5/7/2015	<2000	<50	<500	<50	<50	<50	<50	**1,600**	<50	<50	<50	<50	<50	<50	**940**	<50	<150
B-81 (32.5-35.5')	5/7/2015	<800	<20	<200	<20	<20	<20	<20	**850**	**27**	<20	<20	<20	<20	<20	**980**	<20	<60
B-81 (32.5-35.5') (DUP-05)	5/7/2015	<800	<20	<200	<20	<20	<20	<20	**850**	**28**	<20	<20	<20	<20	<20	**950**	<20	<60
B-82 (6.5-9.5')	5/7/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	**150**	<20	**750**	<20	<60
B-82 (9-12')	5/7/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<100	**4,100**	<100	<300
B-82 (12-15')	5/7/2015	<2000	<50	<500	<50	<50	<50	**66**	**80**	<50	<50	<50	<50	**160**	<50	**1,800**	<50	<150
B-82 (15-18')	5/7/2015	<40	<1.0	<10	<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**	<3.0
B-82 (18-21')	5/7/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**16**	**3.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.3**	<3.0
B-82 (21-24')	5/7/2015	<800	<20	<200	<20	<20	<20	<20	**76**	**71**	<20	<20	<20	<20	<20	<20	<20	<60
B-82 (24-27')	5/7/2015	<40	<1.0	<10	<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-82 (27-30')	5/7/2015	<40	<1.0	<10	<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-82 (30-33')	5/7/2015	<40	<1.0	<10	<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-82 (32.5-35.5')	5/7/2015	<40	<1.0	<10	<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-83 (6.5-9.5')	5/12/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**6.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**16**	**1.8**	<3.0
B-83 (9.5-12.5')	5/12/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**170**	<5.0	<15
B-83 (12.5-15.5')	5/12/2015	<400	<20	<200	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	**650**	<20	<60
B-83 (15.5-18.5')	5/12/2015	<200	<50	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**1,100**	**75**	<150
B-83 (18.5-21.5')	5/12/2015	<40	<10	<100	<10	**24**	<10	<10	**39**	<10	<10	<10	<10	**18**	<10	**210**	**170**	<30

Notes:
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Bold font denotes concentrations detected above laboratory reporting limits

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3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

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Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
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Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-83 (21.5-24.5')	5/12/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	**71**	**130**	<5.0	<5.0	<5.0	<5.0	<5.0	**19**	**29**	<15
B-83 (24.5-27.5')	5/12/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**8.8**	**13**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.9**	<3.0
B-83 (27.5-30.5')	5/12/2015	<40	<1.0	<10	<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-83 (27.5-30.5') (DUP-07)	5/12/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.6**	<3.0
B-83 (30.5-33.5')	5/12/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.1**	<3.0
B-84 (14-17')	5/8/2015	<40	<1.0	<10	<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-84 (17-20')	5/8/2015	<40	<1.0	<10	<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-84 (20-23')	5/8/2015	<40	<1.0	<10	<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-84 (23-26')	5/8/2015	<40	<1.0	<10	<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-84 (26-29')	5/8/2015	<40	<1.0	<10	<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-84 (29-32')	5/8/2015	<40	<1.0	<10	<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-84 (32-35')	5/8/2015	<40	<1.0	<10	<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-84 (35-38')	5/8/2015	<40	<1.0	<10	<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-84 (37.3-40.3')	5/8/2015	<40	<1.0	<10	<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-84 (37.3-40.3') (DUP-06)	5/8/2015	<40	<1.0	<10	<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-85 (14-17')	5/11/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-85 (17.5-20.5')	5/11/2015	<40	<1.0	<10	<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-85 (21-24')	5/11/2015	<40	<1.0	<10	<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-85 (24-27')	5/11/2015	<40	<1.0	<10	<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-85 (27-30')	5/11/2015	<40	<1.0	<10	<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-85 (30-33')	5/11/2015	<40	<1.0	<10	<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-85 (33-36')	5/11/2015	<40	<1.0	<10	<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-85 (36-39')	5/11/2015	<40	<1.0	<10	<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-85 (39-42')	5/11/2015	<40	<1.0	<10	<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-85 (42-45')	5/11/2015	<40	<1.0	<10	<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-86 (28.5-31.5')	5/14/2015	<4000	<100	<1,000	<100	<100	<100	<100	**240**	<100	<100	<100	<100	<100	<100	**1,100**	<100	<300
B-86 (31-34')	5/14/2015	<5000	<130	<1,300	<130	<130	<130	<130	**420**	<130	<130	<130	<130	<130	<130	**2,400**	<130	<380
B-86 (33.5-36.5')	5/14/2015	<8000	<200	<2,000	<200	<200	<200	<200	**310**	<200	<200	<200	<200	<200	<200	**2,800**	<200	<600

Notes:
Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
B-86 (36-39')	5/14/2015	<5000	<130	<1,300	<130	<130	<130	<130	**250**	<130	<130	<130	<130	**140**	<130	**2,600**	<130	<380
B-87 (29-32')	5/15/2015	<800	<20	<200	<20	<20	<20	<20	**150**	<20	<20	<20	<20	**34**	<20	**500**	<20	<60
B-87 (32-35')	5/15/2015	<2000	<50	<500	<50	<50	<50	<50	**280**	<50	<50	<50	<50	**69**	<50	**1,400**	<50	<150
B-87 (35-38')	5/15/2015	<2000	<50	<500	<50	<50	<50	<50	**250**	<50	<50	<50	<50	<50	<50	**1,200**	<50	<150
B-87 (35-38') (DUP-09)	5/15/2015	<400	<10	<100	<10	**15**	<10	<10	**270**	<10	<10	<10	<10	**50**	<10	**1,200**	<10	<30
B-88 (25.5-28.5')	5/13/2015	<40	<1.0	<10	<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-88 (29-32')	5/12/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-88 (32-35')	5/12/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**2.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-88 (35-38')	5/12/2015	<40	<1.0	<10	<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-88 (38-41')	5/13/2015	<40	<1.0	<10	<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-88 (41-44')	5/12/2015	<40	<1.0	<10	<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-88 (44-47')	5/12/2015	<40	<1.0	<10	<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-88 (47-50')	5/12/2015	<40	<1.0	<10	<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-89 (23-26')	5/13/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	**160**	**26**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<15
B-89 (24.5-27.5')	5/13/2015	<400	<10	<100	<10	<10	<10	<10	**290**	**45**	<10	<10	<10	<10	<10	<10	<10	<30
B-89 (27.5-30.5')	5/13/2015	<400	<10	<100	<10	<10	<10	<10	**430**	**20**	<10	<10	<10	<10	<10	<10	<10	<30
B-89 (30.5-33.5')	5/13/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**26**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-89 (30.5-33.5') (DUP-08)	5/13/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**26**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-89 (33.5-36.5')	5/13/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**4.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-89 (36.5-39.5')	5/13/2015	<40	<1.0	<10	<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-89 (39.5-42.5')	5/13/2015	<40	<1.0	<10	<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-89 (42.5-45.5')	5/13/2015	<40	<1.0	<10	<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-90 (17.5-20.5')	5/19/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	**2,100**	<100	**1,600**	<100	<300
B-90 (20.5-23.5')	5/19/2015	<5000	<130	<1,300	<130	<130	<130	<130	<130	<130	<130	<130	<130	**3,700**	<130	**1,600**	<130	<380
B-90 (23.5-26.5')	5/19/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	**390**	<100	**2,400**	<100	<300
B-90 (26.5-29.5')	5/19/2015	<2000	<50	<500	<50	<50	<50	<50	<50	**60**	<50	<50	<50	<50	<50	**1,600**	<50	<150
B-90 (29.5-32.5')	5/15/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<100	<300
B-90 (32.5-35.5')	5/19/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,500**	<100	<300

Notes:
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Denotes concentrations above one or more criteria

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2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

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Tecumseh, Michigan

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Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-90 (35.5-38.5')	5/19/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<100	<300
B-90 (38.5-41.5')	5/19/2015	<4000	<100	<1,000	<100	<100	<100	<100	**330**	<100	<100	<100	<100	<100	<100	**2,300**	<100	<300
B-90 (41.5-44.5')	5/15/2015	<3200	<80	<800	<80	<80	<80	<80	**420**	**89**	<80	<80	<80	<80	<80	**1,500**	<80	<240
B-91 (10.5-13.5')	5/13/2015	<40	<1.0	<10	<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-91 (13-16')	5/13/2015	<40	<1.0	<10	<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-91 (16.5-19.5')	5/13/2015	<40	<1.0	<10	<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-91 (19.75-22.75')	5/13/2015	<40	<1.0	<10	<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-91 (22.75-25.75')	5/13/2015	<40	<1.0	<10	<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-92 (10.5-13.5')	5/14/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.5**	<3.0
B-92 (13-16')	5/14/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**20**	<3.0
B-92 (15.5-18.5')	5/14/2015	<40	<1.0	<10	<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-92 (19.5-22.5')	5/14/2015	<40	<1.0	<10	<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-92 (22-25')	5/14/2015	<40	<1.0	<10	<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-92 (24.75-27.75')	5/14/2015	<40	<1.0	<10	<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-93 (17-20')	5/14/2015	<40	<1.0	<10	<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-93 (19.5-22.5')	5/14/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.2**	<3.0
B-93 (22-25')	5/14/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**8.6**	<3.0
B-93 (25-28')	5/14/2015	<40	<1.0	<10	<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-93 (28.5-31.5')	5/14/2015	<40	<1.0	<10	<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-93 (32-35')	5/14/2015	<40	<1.0	<10	<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-93 (33.5-36.5')	5/14/2015	<40	<1.0	<10	<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-94 (14.5-17.5')	5/18/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**17**	<3.0
B-94 (17-20')	5/18/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**15**	<3.0
B-94 (19.5-22.5')	5/18/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.1**	<3.0
B-94 (22.5-25.5')	5/18/2015	<40	<1.0	<10	<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-94 (25.25-38.25')	5/18/2015	<40	<1.0	<10	<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-94 (28-31')	5/15/2015	<40	<1.0	<10	<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-94 (31.25-34.25')	5/15/2015	<40	<1.0	<10	<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

Notes:
Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-94 (37-40')	5/18/2015	<40	<1.0	<10	<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-94 (39-42')	5/15/2015	<40	<1.0	<10	<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-94 (42-45')	5/15/2015	<40	<1.0	<10	<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-95 (13-16')	5/18/2015	<40	<1.0	<10	<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-95 (16.5-19.5')	5/18/2015	<200	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**95**	<15
B-95 (20-23')	5/18/2015	<400	<10	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**230**	<30
B-95 (23-26')	5/18/2015	<80	<2.0	**48**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**44**	<6.0
B-95 (26-29')	5/18/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.4**	<3.0
B-95 (38-41')	5/15/2015	<40	<1.0	<10	<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-96 (18-21')	5/27/2015	<40	<1.0	<10	<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-96 (21-24')	5/27/2015	<40	<1.0	<10	<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-96 (24-27')	5/27/2015	<40	<1.0	<10	<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-96 (27-30')	5/27/2015	<40	<1.0	<10	<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-96 (30-33')	5/27/2015	<40	<1.0	<10	<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-96 (33-36')	5/27/2015	<40	<1.0	<10	<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-96 (36-39')	5/27/2015	<40	<1.0	<10	<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-96 (39-42')	5/27/2015	<40	<1.0	<10	<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-96 (42-45')	5/27/2015	<40	<1.0	<10	<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-96 (45-48')	5/27/2015	<40	<1.0	<10	<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-96 (48.5-51.5')	5/27/2015	<40	<1.0	<10	<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-96 (51.5-54.5')	5/27/2015	<40	<1.0	<10	<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-97 (15.5-18.5')	5/29/2015	<40	<1.0	<10	<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-97 (22.5-25.5')	6/1/2015	<40	<1.0	<10	<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-97 (25.5-28.5')	6/1/2015	<40	<1.0	<10	<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-97 (28.5-31.5')	6/1/2015	<40	<1.0	<10	<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-97 (32-35')	6/1/2015	<40	<1.0	<10	<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-97 (35.5-38.5')	5/29/2015	<40	<1.0	<10	<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-97 (39-42')	5/29/2015	<40	<1.0	<10	<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

Notes:
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Denotes concentrations above one or more criteria

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2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	Sample Collection Date																
B-97 (43-46')	6/1/2015	<40	<1.0	<10	<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-97 (46.5-49.5')	5/29/2015	<40	<1.0	<10	<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-97 (49-52')	5/29/2015	<40	<1.0	<10	<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-98 (5-8')	6/2/2015	<40	<1.0	<10	<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-98 (8-11')	6/2/2015	<40	<1.0	<10	<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-98 (21.5-24.5')	6/1/2015	<40	<1.0	<10	<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-98 (25-28')	6/1/2015	<40	<1.0	<10	<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-98 (28-31')	6/1/2015	<80	<1.0	<10	<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-98 (31-34')	6/1/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.0**	<3.0
B-98 (34.5-37.5')	6/1/2015	<40	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0
B-99 (10.5-13.5')	6/1/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	**29**	<20	**230**	<20	**250**	<20	<60
B-99 (13.5-16.5')	6/1/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	**1,000**	<100	**570**	<100	<300
B-100 (8-11')	6/2/2015	<40000	<1,000	<10,000	<1,000	<1,000	<1,000	<1,000	**3,800**	<1,000	<1,000	**32,000**	<1,000	<1,000	<1,000	**2,700**	<1,000	<3,000
B-100 (10-13')	6/1/2015	<40000	<1,000	<10,000	<1,000	<1,000	<1,000	<1,000	**3,100**	<1,000	<1,000	**17,000**	<1,000	<1,000	<1,000	**2,500**	**1,100**	<3,000
B-100 (13-16')	6/1/2015	<2000	<50	<500	<50	<50	<50	<50	**190**	<50	<50	**1,100**	<50	<50	<50	**1,200**	**150**	<150
B-101 (12-15')	6/3/2015	<8000	<200	<2,000	<200	<200	<200	<200	<200	<200	<200	**3,700**	<200	<200	<200	**560**	<200	<600
B-101 (15-18')	6/3/2015	<500	<13	<130	<13	<13	<13	**19**	**15**	<13	<13	**130**	<13	**71**	<13	**320**	<13	<38
B-101 (18-21')	6/3/2015	<5000	<130	<1,300	<130	<130	<130	<130	<130	<130	<130	<130	<130	**1,200**	<130	**4,500**	<130	<380
B-102 (8-11')	6/3/2015	<20000	<500	<5,000	<500	<500	<500	<500	**3,600**	<500	<500	**9,700**	<500	<500	<500	**560**	**530**	<1,500
B-102 (11-14')	6/3/2015	<5000	<130	<1,300	<130	<130	<130	<130	**2,300**	<130	<130	**1,200**	<130	<130	<130	**290**	**1,900**	<380
B-102 (14-17')	6/3/2015	<2000	<50	<500	<50	<50	<50	<50	**420**	<50	<50	**80**	<50	<50	<50	**1,100**	**700**	<150
B-103 (29.5-32.5')	6/5/2015	<40	<1.0	<10	<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
B-103 (32.5-35.5')	6/5/2015	<40	<1.0	<10	<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
B-103 (35.5-38.5')	6/5/2015	<40	<1.0	<10	<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
B-104 (12-15')	6/9/2015	<4000	<100	<1,000	<100	<100	<100	<100	**170**	<100	<100	**4,000**	<100	<100	<100	**1,300**	<100	<300
B-104 (15-18')	6/9/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	**190**	<20	**23**	<20	**570**	<20	<60
B-104 (15-18') (DUP-19)	6/9/2015	<800	<20	<200	<20	<20	<20	<20	<20	<20	<20	**190**	<20	**22**	<20	**570**	<20	<60
B-104 (18-21')	6/8/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,200**	<100	<300

Notes:
Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

NC = No criteria

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Bold font denotes concentrations detected above laboratory reporting limits

* An asterisk indicates that the observed depth to groundwater intersects or is near an overlaying clay unit that may act as a localized confining unit. The true piezometric surface may have a depth less than the recorded depth to groundwater.

Denotes concentrations above one or more criteria

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 4
Summary of Detected Volatile Organic Compounds in Groundwater at Perimeter and Off-Site Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
B-105 (13-16')	6/8/2015	<400	<10	<100	<10	<10	<10	<10	<10	<10	<10	**140**	<10	**37**	<10	**170**	<10	<30
B-105 (16-19')	6/8/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	**360**	<100	**1,700**	<100	<300
B-105 (19-22')	6/8/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	**170**	<100	**2,900**	<100	<300
B-106 (16.5-19.5')	6/8/2015	<40	<1.0	<10	<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-106 (19.5-22.5')	6/8/2015	<40	<1.0	<10	<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-106 (22.5-25.5')	6/5/2015	<40	<1.0	<10	<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-106 (25.5-28.5')	6/5/2015	<40	<1.0	<10	<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-106 (29-32')	6/5/2015	<40	<1.0	<10	<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-106 (29-32')	6/8/2015	<40	<1.0	<10	<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-106 (32-35')	6/8/2015	<40	<1.0	<10	<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-106 (32-35') (DUP-18)	6/8/2015	<40	<1.0	<10	<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-106 (35-38')	6/5/2015	<40	<1.0	<10	<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-106 (38-41')	6/5/2015	<40	<1.0	<10	<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-107 (18-21')	6/5/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.6**	<3.0
B-107 (25-28')	6/5/2015	<40	<1.0	<10	<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-107 (28-31')	6/5/2015	<40	<1.0	<10	<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**	<3.0
B-107 (31-34')	6/5/2015	<40	<1.0	<10	<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-107 (34-37')	6/5/2015	<40	<1.0	<10	<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-107 (37-40')	6/5/2015	<40	<1.0	<10	<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-107 (40.5-43.5')	6/5/2015	<40	<1.0	<10	<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-108 (5.6-8.6')	9/1/2015	<200	<10	<50	<50	**15**	<10	<10	**1,100**	**11**	<10	<10	<10	**25**	<10	**1,200**	**23**	<30
B-109 (7.4-10.4')	9/1/2015	<20	<1.0	<5.0	<5.0	**6.5**	<1.0	<1.0	**6.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.7**	<1.0	<3.0
B-109 (7.4-10.4') (DUP-01)	9/1/2015	<20	<1.0	<5.0	<5.0	**6.6**	<1.0	<1.0	**7.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.8**	<1.0	<3.0
B-110 (7.3-10.3')	9/1/2015	**41**	<1.0	<5.0	<5.0	<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-111 (3.3-6.3')	9/1/2015	<20	<1.0	<5.0	<5.0	<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-112 (4.4-7.4')	9/1/2015	**25**	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<3.0
GP-01 (26-30')	12/17/2008	--	--	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
GP-24 (10-14')	1/19/2009	--	--	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**48**	<1	<3

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Table 4
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Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Acetone	Carbon Disulfide	Chloroethane	Dichloro-di-fluoromethane	1,1-Dichloro-ethane	1,2-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	730	800	430	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2100	2,300	1700	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	8.20E+06	2,400	1,100[2]	7,000	4,300	41	370	83	360	700	94	36,000	17,000	96	10	2.8	10,000
Non-Residential GWSL for Vapor Intrusion	3.40E+07	9,900	4.4E+04	29,000	18,000	210	1,600	350	1,500	2,600	460	1.5E+05	71,000	480	41	52	10,000
GSI Criteria	1700	NC	1.8E+05	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	3.10E+07	1.2E+06	4.4E+05	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	13,000[3]	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	ug/L
Sample Location and Screen Interval	**Sample Collection Date**																
GP-26 (25-29')	1/19/2009	--	--	<1	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
MW-25 (46-51')	12/1/2009	<20	<1.0	<10	<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	<3.0
SB-MIP-55 (15.5-18.5')	6/2/2015	<4000	<100	<1,000	<100	<100	<100	<100	**200**	<100	<100	<100	<100	<100	<100	**1,600**	<100	<300
SB-MIP-55 (19-22')	6/2/2015	<20000	<500	<5,000	<500	<500	<500	<500	**1,400**	<500	<500	<500	<500	<500	<500	**8,400**	<500	<1,500
SB-MIP-55 (22-25')	6/2/2015	<20000	<500	<5,000	<500	<500	<500	<500	**2,300**	<500	<500	<500	<500	<500	<500	**8,900**	<500	<1,500
SB-MIP-55 (25-28')	6/2/2015	<16000	<400	<4,000	<400	<400	<400	<400	**2,200**	<400	<400	<400	<400	<400	<400	**5,700**	<400	<1,200
SB-MIP-55 (28-31')	6/2/2015	<10000	<250	<2,500	<250	<250	<250	<250	**2,600**	<250	<250	<250	<250	<250	<250	**4,200**	<250	<750
SB-MIP-55 (31-34')	6/2/2015	<4000	<100	<1,000	<100	<100	<100	<100	**3,000**	**100**	<100	<100	<100	<100	<100	**360**	<100	<300
SB-MIP-55 (32.5-35.5')	6/2/2015	<4000	<100	<1,000	<100	<100	<100	<100	**2,300**	<100	<100	<100	<100	<100	<100	<100	<100	<300
SB-MIP-57 (18-21')	5/28/2015	<20000	<500	<5,000	<500	<500	<500	<500	**3,600**	<500	<500	<500	<500	<500	<500	**10,000**	<500	<1,500
SB-MIP-57 (21-24')	5/28/2015	<32000	<800	<8,000	<800	<800	<800	<800	**3,500**	<800	<800	<800	<800	<800	<800	**12,000**	<800	<2,400
SB-MIP-57 (24-27')	5/28/2015	<8000	<200	<2,000	<200	<200	<200	<200	**6,000**	<200	<200	<200	<200	<200	<200	**4,000**	<200	<600
SB-MIP-58 (24-27')	6/1/2015	<10000	<250	<2,500	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	**2,400**	<250	<750
SB-MIP-58 (27-30')	6/1/2015	<40000	<1,000	<10,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	**7,300**	<1,000	<3,000
SB-MIP-58 (30-33')	6/1/2015	<20000	<500	<5,000	<500	<500	<500	<500	**1,100**	<500	<500	<500	<500	<500	<500	**6,000**	<500	<1,500
SB-MIP-58 (33-36')	6/1/2015	<4000	<100	<1,000	<100	<100	<100	<100	**1,900**	**190**	<100	<100	<100	<100	<100	**1,200**	<100	<300
SB-MIP-58 (33-36') (DUP-15)	6/1/2015	<4000	<100	<1,000	<100	<100	<100	<100	**2,000**	**200**	<100	<100	<100	<100	<100	**1,300**	<100	<300
SB-MIP-64 (22.5-25.5')	6/4/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	<1.0	<1.0	<1.0	**27**	<1.0	<3.0
SB-MIP-64 (26-29')	6/4/2015	<500	<13	<130	<13	<13	<13	<13	<13	<13	<13	**15**	<13	<13	<13	**180**	<13	<38
SB-MIP-64 (26-29') (DUP-17)	6/4/2015	<400	<10	<100	<10	<10	<10	<10	<10	<10	<10	**16**	<10	<10	<10	**180**	<10	<30
SB-MIP-64 (29.5-32.5')	6/4/2015	<2000	<50	<500	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**610**	<50	<150
SB-MIP-64 (32.5-35.5')	6/4/2015	<4000	<100	<1,000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**710**	<100	<300
SB-MIP-64 (35.5-38.5')	6/4/2015	<400	<10	<100	<10	<10	<10	<10	**93**	**16**	<10	<10	<10	<10	<10	<10	<10	<30
SB-MIP-64 (39-42')	6/4/2015	<100	<2.5	<25	<2.5	<2.5	<2.5	<2.5	**62**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<7.5
SB-MIP-64 (42-45')	6/4/2015	<40	<1.0	<10	<1.0	<1.0	<1.0	<1.0	**2.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

4) Sample locations designated with a "b" following the boring location number, for example B-27b, were collected from the utility corridor.

Table 5
Proposed Groundwater and Surface Water Monitoring Program
Former Tecumseh Products Company Site
Tecumseh, Michigan

Groundwater Sample Location	Water Level		VOCs Analysis		Comments
	2nd Qtr	4th Qtr	2nd Qtr	4th Qtr	
Existing Groundwater Sample Locations					
MW-01s					Concentrations stable or decreasing; side gradient to area of higher CVOC mass; discontinue monitoring
MW-02s	√	√	√	√	Located side gradient to area of higher CVOC mass; will provide data on CVOC mass reductions
MW-03s	√	√	√	√	Located downgradient/side gradient of area of higher CVOC mass; will provide data on CVOC mass reductions
MW-04s	√	√	√	√	Located in area of highest CVOC mass at property line; will provide data on CVOC mass reduction
MW-04i	√	√	√	√	Located in area of highest CVOC mass at property line; will provide data on CVOC mass reduction
MW-05s					Located up gradient; concentrations stable over duration of monitoring; discontinue monitoring
MW-06s					Located up gradient; concentrations stable over duration of monitoring; discontinue monitoring
MW-07s					Located up gradient; concentrations stable over duration of monitoring; discontinue monitoring
MW-08s					Located up gradient; concentrations stable over duration of monitoring; discontinue monitoring
MW-08d					Located up gradient; concentrations stable over duration of monitoring; discontinue monitoring
MW-09s	**Well Decommissioned**				
MW-10s	√	√			Replace with MW-10d which is screened at the same interval as other wells with highest CVOC mass; water levels only
MW-10d	√	√		√	Located side gradient/downgradient; will provide stability monitoring location along plume edge
MW-11s	√	√			Located up gradient; no CVOC detections; water levels only
MW-12s	√	√		√	Located side gradient; will provide stability monitoring location along plume edge
MW-12d	√	√		√	Located side gradient; will provide stability monitoring location along plume edge
MW-13s					Located far side gradient; no CVOC detections; discontinue monitoring
MW-14s	**Well Decommissioned**				
MW-14d	√	√		√	Located side gradient; will provide stability monitoring location along plume edge
MW-15s					Located up gradient of TPC site; no CVOC detections; discontinue monitoring
MW-16s	**Well Decommissioned**				
MW-17s	√	√		√	Located side gradient/downgradient; will provide stability monitoring location along plume edge
MW-18s	√	√			Located up gradient; no CVOC detections; water levels only
MW-19s					Located up gradient, concentrations stable over duration of sampling; discontinue monitoring
MW-19d					Located up gradient; no CVOC detections; discontinue monitoring
MW-20s	√	√	√	√	Located downgradient/side gradient to area of higher CVOC mass; will provide data on CVOC mass reductions
MW-20d	√	√	√	√	Located downgradient/side gradient to area of higher CVOC mass; will provide data on CVOC mass reductions
MW-21	√	√	√	√	Located downgradient of area of higher CVOC mass; will provide data on CVOC mass reduction
MW-22					Located downgradient; replace with MW-41 which is better suited for GSI compliance; discontinue monitoring
MW-23	√	√	√	√	Located downgradient of area of higher CVOC mass; will provide data on CVOC mass reduction
MW-24s	√	√		√	Located side gradient; will provide stability monitoring location along plume edge
MW-24d	√	√		√	Located side gradient; will provide stability monitoring location along plume edge
MW-25s					Located within area of CVOC mass; but far side gradient to most affected area; discontinue monitoring

Note:
There is not an immediate plan to decommission the existing monitoring wells that are not sampled in this proposed monitoring program.

Table 5
Proposed Groundwater and Surface Water Monitoring Program
Former Tecumseh Products Company Site
Tecumseh, Michigan

Groundwater Sample Location	Water Level		VOCs Analysis		Comments
	2nd Qtr	4th Qtr	2nd Qtr	4th Qtr	
Existing Groundwater Sample Locations					
MW-26s	√	√			Located up gradient; no CVOC detections; water levels only
MW-27s	√	√		√	Located side gradient; will provide stability monitoring location along plume edge
MW-27d	√	√		√	Located side gradient; will provide stability monitoring location along plume edge
MW-28s	√	√			Located up gradient; no CVOC detections; water levels only
MW-28d					Located up gradient of TPC site; no CVOC detections; discontinue monitoring
MW-29s	√	√		√	Located downgradient of area of higher CVOC mass; will provide stability monitoring along plume edge
MW-29d					Screened far below area of CVOC mass; discontinue monitoring
MW-30s	√	√		√	Located side gradient/downgradient; will provide stability monitoring location along plume edge
MW-30d	√	√		√	Located side gradient/downgradient; will provide stability monitoring location along plume edge
MW-31					Located downgradient; replace with MW-42 which is better suited for GSI compliance; discontinue monitoring
MW-32s	√	√	√	√	Located within the former northern source area; will provide data on CVOC mass reduction
MW-32d	√	√	√	√	Located within the former northern source area; will provide data on CVOC mass reduction
MW-33s					Side gradient to area of higher CVOC mass, replace with MW-43i; discontinue monitoring
MW-34s	√	√	√	√	Located within the former southern source area; will provide data on CVOC mass reduction
MW-34d	√	√	√	√	Located within the former southern source area; will provide data on CVOC mass reduction
MW-35i	√	√	√	√	Located near former source; but downgradient; will provide data on CVOC mass reduction
MW-35d	√	√	√	√	Located near former source; but downgradient; will provide data on CVOC mass reduction
MW-36s	√	√	√	√	Located side gradient/downgradient of area of higher CVOC mass; will provide data on CVOC mass reduction
MW-36d	√	√	√	√	Located side gradient/downgradient of area of higher CVOC mass; no CVOCs detected; provides data on plume stability at depth
MW-37s	√	√	√	√	Located near former source; will provide data on CVOC mass reduction
MW-38s	√	√	√	√	Located downgradient/side gradient of area of higher CVOC mass; will provide data on CVOC mass reduction
MW-38d	√	√	√	√	Located downgradient/side gradient of area of higher CVOC mass; will provide data on CVOC mass reduction
MW-39s	√	√	√	√	Located downgradient/side gradient of area of higher CVOC mass; will provide data on CVOC mass reduction
MW-39d	√	√	√	√	Located side gradient/downgradient of area of higher CVOC mass; low concentrations; will provide data on plume stability at depth
MW-40s	√	√			Far side gradient of area of higher CVOC mass; discontinue monitoring
MW-40d					Far side gradient of area of higher CVOC mass; discontinue monitoring
PRB-01s	√	√	√	√	Located downgradient of area of higher CVOC mass; will monitor PRB performance and vapor intrusion pathway
PRB-02s	√	√	√	√	Located downgradient of area of higher CVOC mass; will monitor PRB performance and vapor intrusion pathway
PRB-03s					Unnecessarily high well density; relatively low concentrations; replace with wells through centerline of plume; discontinue monitoring
PRB-04s					Unnecessarily high well density; relatively low concentrations; replace with wells through centerline of plume; discontinue monitoring
PRB-04d					Unnecessarily high well density; relatively low concentrations; replace with wells through centerline of plume; discontinue monitoring
PRB-05s					Unnecessarily high well density; relatively low concentrations; replace with wells through centerline of plume; discontinue monitoring
PRB-06s					Unnecessarily high well density; relatively low concentrations; replace with wells through centerline of plume; discontinue monitoring

Note:
There is not an immediate plan to decommission the existing monitoring wells that are not sampled in this proposed monitoring program.

Table 5
Proposed Groundwater and Surface Water Monitoring Program
Former Tecumseh Products Company Site
Tecumseh, Michigan

Groundwater Sample Location	Water Level		VOCs Analysis		Comments
	2nd Qtr	4th Qtr	2nd Qtr	4th Qtr	
Existing Groundwater Sample Locations					
PRB-07s					Unnecessarily high well density for long-term monitoring, keep PRB-01s and PRB-02s; discontinue monitoring
PRB-08s	√	√	√	√	Located downgradient/side gradient to area of higher CVOC mass; will provide data on CVOC mass reductions
PRB-08d	√	√	√	√	Located downgradient/side gradient to area of higher CVOC mass; will provide data on CVOC mass reductions
PRB-09s					Monitors same area as PRB-08s; discontinue monitoring
PRB-10s					Monitors same area as PRB-08s; discontinue monitoring
PRB-11s	√	√	√	√	Located side gradient; will provide stability monitoring location along plume edge
PRB-12s					Concentrations stable or decreasing, side gradient to area of higher CVOC mass; discontinue monitoring
PRB-13s					Monitors same area as PRB-15s; discontinue monitoring
PRB-14s					Monitors same area as PRB-15s; discontinue monitoring
PRB-15s	√	√	√	√	Near source, downgradient well; will provide data on CVOC mass reductions
PRB-15d	√	√	√	√	Near source, downgradient well; will provide data on CVOC mass reductions
PRB-16s					Monitors same area as PRB-08s; discontinue monitoring
Proposed Groundwater Sample Locations					
MW-41	√	√	√	√	GSI compliance point; at location of boring B-111
MW-42	√	√	√	√	GSI compliance point; near location of soil boring B-108
MW-43i	√	√	√	√	Northern source well; screened through area of higher CVOC mass near SB-MIP-38
MW-44i	√	√	√	√	Northern source well; screened through area of higher CVOC mass near SB-MIP-57
MW-45s	√	√	√	√	Downgradient of area of higher CVOC mass; at water table near B-76
MW-46i	√	√	√	√	Downgradient of area of higher CVOC mass near B-75; shallow intermediate well
MW-46ii	√	√	√	√	Downgradient of area of higher CVOC mass near B-75; deep intermediate well
MW-47i	√	√	√	√	Downgradient of area of higher CVOC mass near B-72
MW-48s	√	√	√	√	Downgradient of area of higher CVOC mass; shallow zone near B-107
MW-48i	√	√	√	√	Downgradient of area of higher CVOC mass; intermediate zone near B-107
MW-49i	√	√	√	√	Downgradient of area of higher CVOC mass in most affected zone near SB-MIP-50
MW-50s	√	√	√	√	PCE source area well near B-100; monitor area of higher CVOC mass
MW-51i	√	√	√	√	Downgradient of PCE source through area of higher CVOC mass near B-81
MW-52s	√	√	√	√	Shallow well ~500 ft downgradient of southern TCE and PCE sources (contingent on site access)
MW-52d	√	√	√	√	Deep well ~500 ft downgradient of southern TCE and PCE sources (contingent on site access)
Surface Water Sample Locations					
E. Chicago Blvd					Elevation and gradient of River Raisin established; discontinue monitoring
Russell Road					Elevation and gradient of River Raisin established; discontinue monitoring
WL-01					Located far beyond area of CVOC detection; discontinue monitoring
Seep			√	√	Side gradient to southern plume; serves as southern GSI compliance point

Note:
There is not an immediate plan to decommission the existing monitoring wells that are not sampled in this proposed monitoring program.

Table 6
Revised Soil Gas Monitoring Program
Former Tecumseh Products Company Site
Tecumseh, Michigan

Soil Gas Sample Location	TO-15 VOC Analysis				Comments
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	
SG-01 (8-8.5')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-02 (5.5-6')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-03 (5-5.5')	**Gas Probe Decommissioned**				
SG-03R (5-5.5')					Located near the edge of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 10 sampling events; discontinue monitoring
SG-04 (5-5.5')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 22 sampling events; discontinue monitoring
SG-05 (7.5-8')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-06 (8-8.5')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-07 (8-8.5')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-08 (6.5-7')					Located near the edge of the area where shallow groundwater concentrations are above GWSLs; No CVOCs were detected above SGSLs in 21 sampling events; discontinue monitoring
SG-09 (5.5-6')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-10 (5-5.5')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-11 (5.5-6')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-12/12R (7-7.5')					Located in area of perched groundwater underlain by a silty clay deposit have a total depth greater than 8 feet; No CVOCs detected in shallow groundwater above GWSLs; No CVOCs detected above soil gas screening levels in 12 sampling events; discontinue monitoring
SG-13 (5.5-6')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 23 sampling events; discontinue monitoring

Note:

There is not an immediate plan to decommission the existing monitoring points that are not sampled in this revised monitoring program.

CVOCs = chlorinated volatile organic compounds

GWSLs = Michigan groundwater screening levels for vapor intrusion

SGSLs = Michigan sub-slab soil gas screening levels for vapor intrusion

Table 6
Revised Soil Gas Monitoring Program
Former Tecumseh Products Company Site
Tecumseh, Michigan

Soil Gas Sample Location	TO-15 VOC Analysis				Comments
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	
SG-14 (6.5-7') (5)	**Gas Probe Decommissioned**				
SG-14R (6.5-7')					Located in area of perched groundwater underlain by a silty clay deposit have a total depth greater than 8 feet; No CVOCs detected above soil gas screening levels in 6 sampling events; discontinue monitoring
SG-15 (11-11.5')	**Gas Probe Decommissioned**				
SG-15R (8.75-9.25')					Located in area of perched groundwater underlain by a silty clay deposit have a total depth greater than 8 feet; No CVOCs detected in shallow groundwater above GWSLs; No CVOCs detected above soil gas screening levels in 14 sampling events; discontinue monitoring
SG-16 (7.5-8')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-17 (8-8.5')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 14 sampling events; discontinue monitoring
SG-18 (8-8.5')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 14 sampling events; discontinue monitoring
SG-19 (8-8.5')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 14 sampling events; discontinue monitoring
SG-20 (8-8.5')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-21 (8-8.5')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 13 sampling events; discontinue monitoring
SG-22 (6-6.5')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-23 (5-5.5')		√		√	Continue sampling until corrective measures proposal monitoring program is established
SG-24 (5-5.5')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 5 sampling events; discontinue monitoring
SG-25 (5-5.5')					Located outside of the area where shallow groundwater concentrations are above GWSLs; No CVOCs detected above SGSLs in 5 sampling events; discontinue monitoring
MHC-01		√		√	Continued sampling contingent on indoor air sampling scheduled for October 2015; Discontinue monitoring if concentrations in indoor air are below MDEQ non-residential criteria

Notes:

There is not an immediate plan to decommission the existing monitoring points that are not sampled in this revised monitoring program.

CVOCs = chlorinated volatile organic compounds

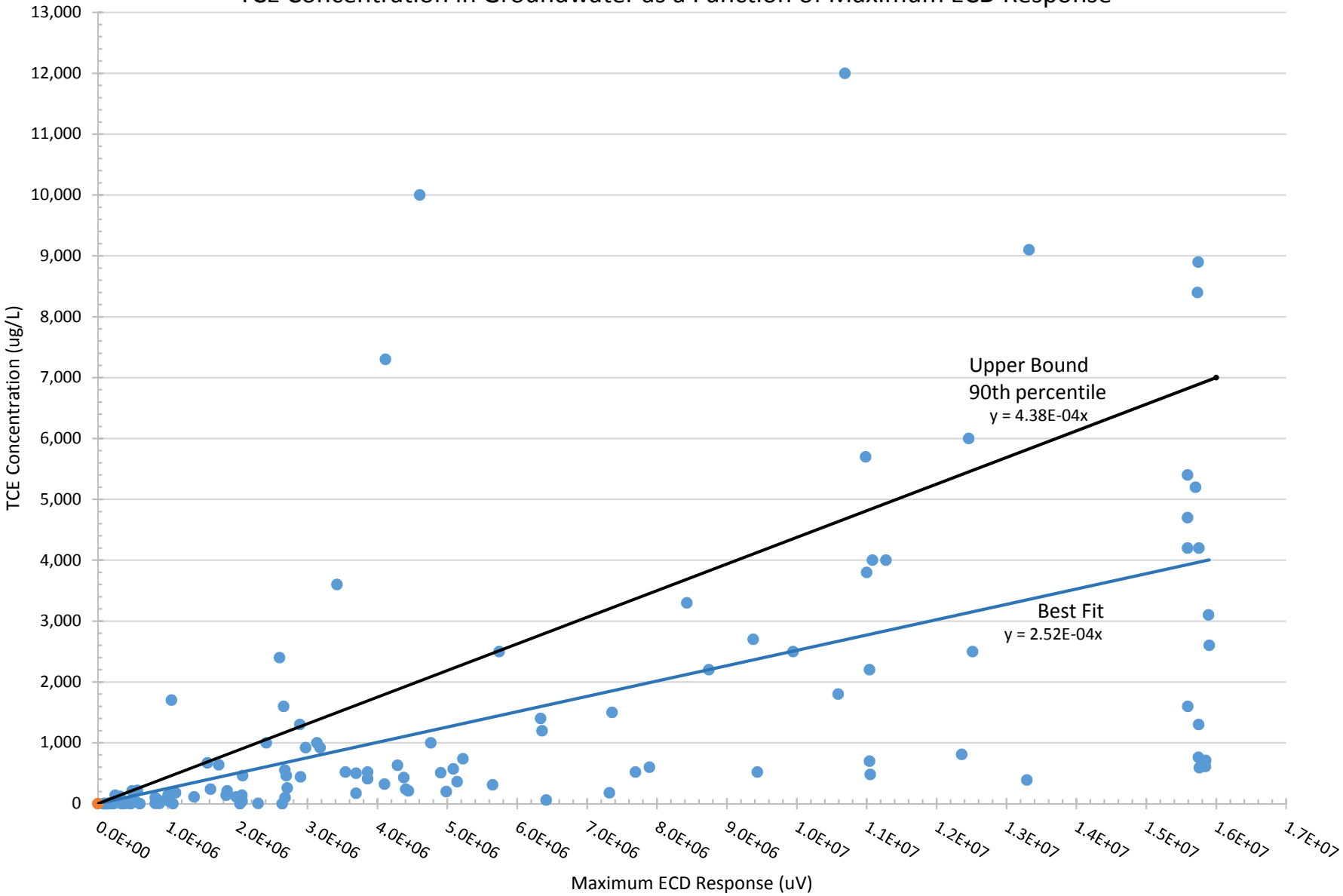
GWSLs = Michigan groundwater screening levels for vapor intrusion

SGSLs = Michigan sub-slab soil gas screening levels for vapor intrusion

Charts

Chart 1

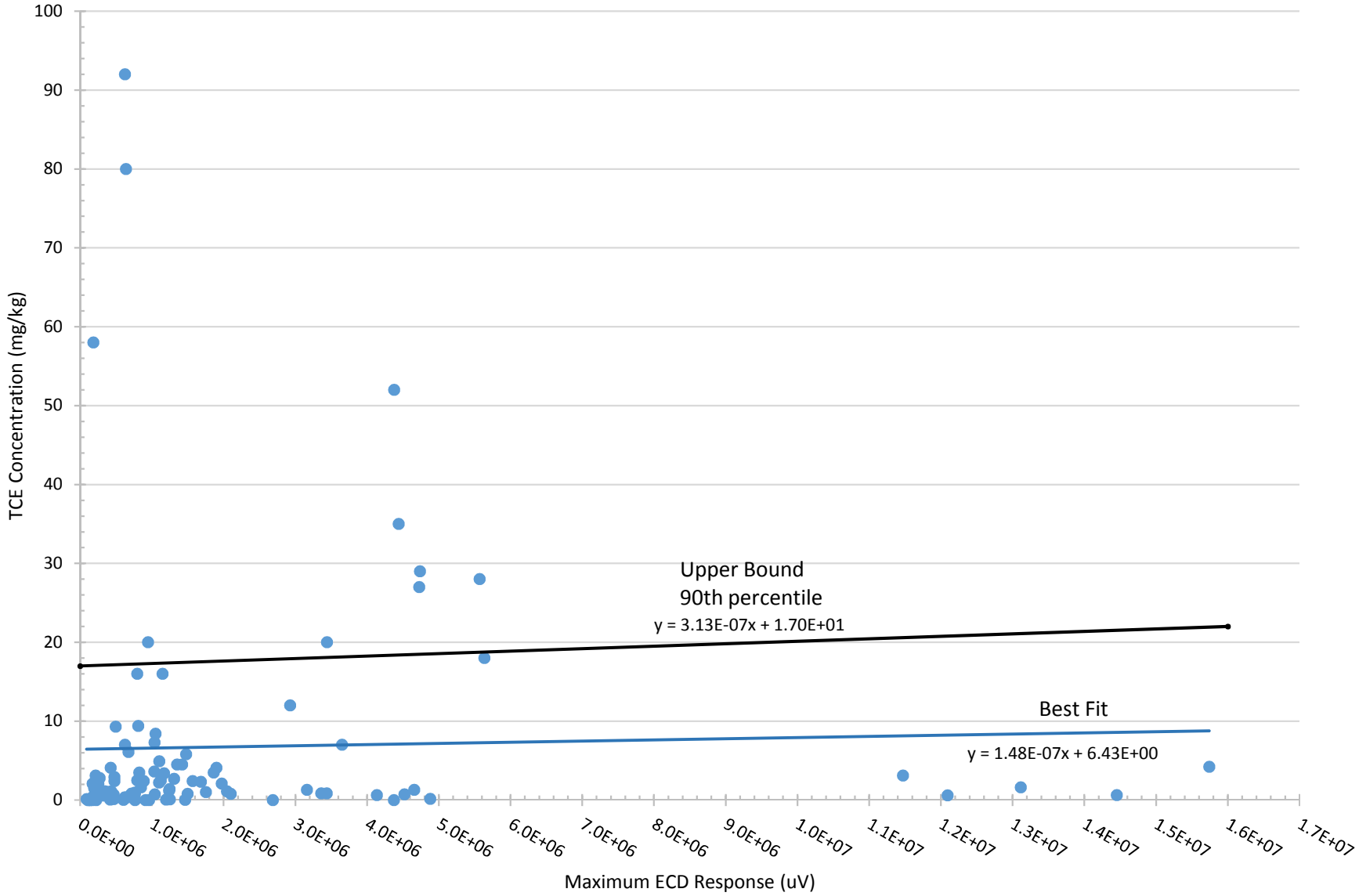
TCE Concentration in Groundwater as a Function of Maximum ECD Response



* Non-detect concentrations were replaced with zero.

Chart 2

TCE Concentration in Soil as a Function of Maximum ECD Response



* Non-detect concentrations were replaced with zero.

Figures

EAST CHICAGO BLVD.
POTTAWATAMIE STREET
KILBUCK STREET
CUMMINS STREET
CUMMINS STREET (ABANDONED)
PATTERSON STREET
HIAWATHA ST.
MUSCODY STREET
EAST RUSSELL ROAD
BLOOD ROAD (ABANDONED)
SOUTH VAN BUREN STREET
SOUTH UNION STREET
SOUTH MAIDEN LANE
PEARL STREET
S. EVANS STREET
S. OTTAWA STREET
S. ONEIDA STREET
S. MAUMEE STREET
WYANDOTTE STREET
DIVISION ST.
MOHAWK STREET
MILL HIGHWAY
S. UNION STREET
Raisin River
WETLAND AREA
PRB SECTION 1
PRB SECTION 2
SEE INSET MAP FOR ADDITIONAL DETAIL
SEEP

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- 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.

INSET MAP

APPROXIMATE SCALE IN FEET
0 20' 40'

0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

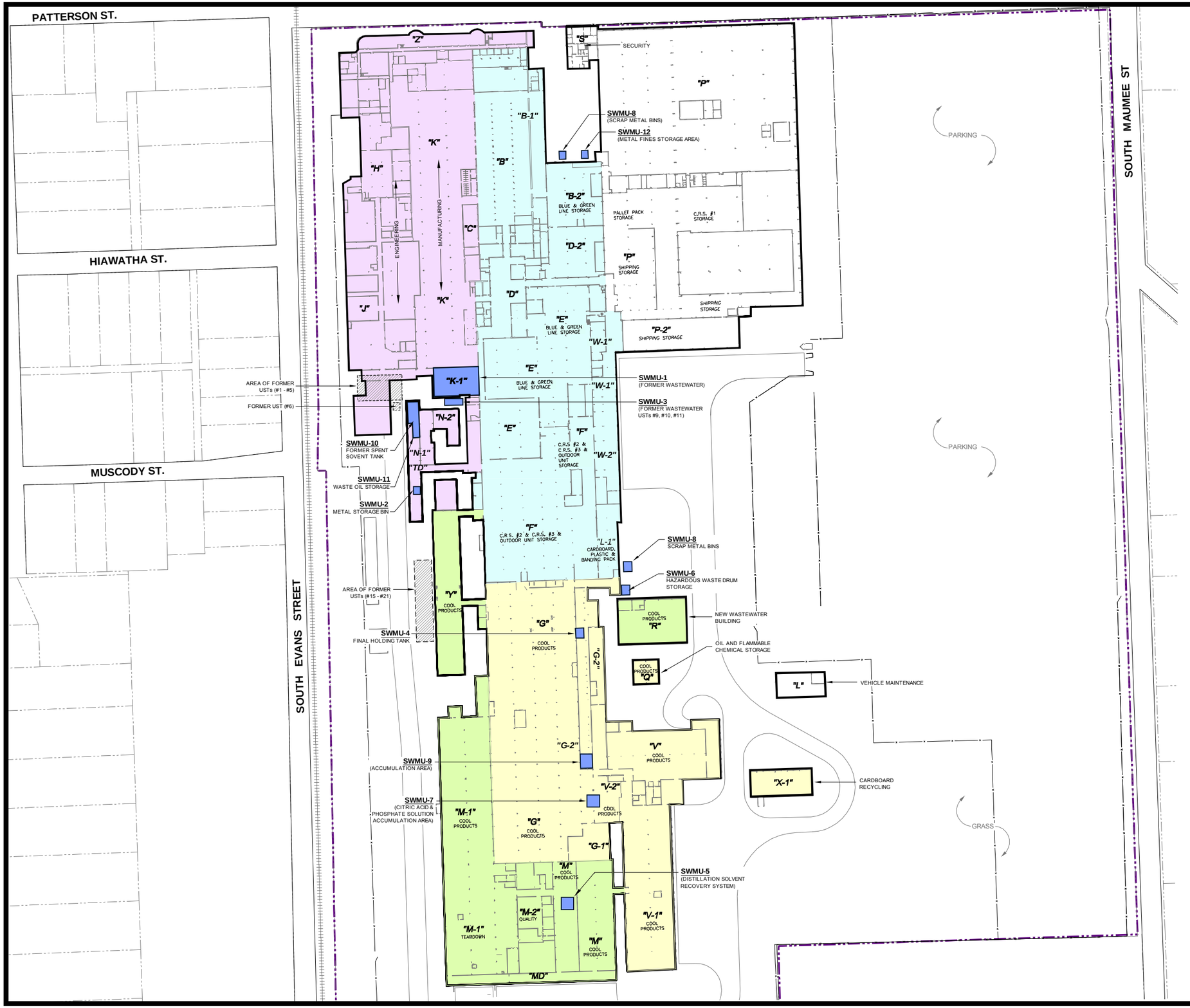
NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: SITE LAYOUT AND SAMPLE LOCATIONS

DRAWN BY:	DGS	SCALE: AS INDICATED	PROJ NO. 220003.0000
CHECKED BY:	SEM		FILE NO. 220003.0000.01.dwg
APPROVED BY:	GC	DATE PRINTED:	FIGURE 1
DATE:	OCTOBER 2015		

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108
Phone: 734.971.7080
Fax: 734.971.9022



LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- TECUMSEH PRODUCTS BUILDING OUTLINE
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- APPROXIMATE LOCATION OF FORMER SOLID WASTE MANAGEMENT UNITS (SWMUs)
- FENCE LINE

Demolition Key

- PHASE I DEMOLITION AREA (DEMOLITION COMPLETE - 2013)
- PHASE II DEMOLITION AREA (DEMOLITION COMPLETE - 2013)
- PHASE III DEMOLITION AREA (PROPOSED)
- PHASE IV DEMOLITION AREA (PROPOSED)

NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
2. SEE SECTION 2 OF THE SEPTEMBER 2012 REMEDIAL INVESTIGATION AND GROUNDWATER ENVIRONMENTAL INDICATOR REPORT FOR A DESCRIPTION OF SWMUs, UNDERGROUND STORAGE TANKS AND OTHER RELEVANT DATA.

N

0 160' 320' 480' 640'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
SITE FEATURES AND DEMOLITION AREAS

DRAWN BY:	DGS	SCALE:	PROJ. NO. 220003.0000
CHECKED BY:	SEM	AS INDICATED	FILE NO. 220003.0000.02.dwg
APPROVED BY:	GC	DATE PRINTED:	**FIGURE 2**
DATE:	OCTOBER 2015		

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108
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Fax: 734.971.9022

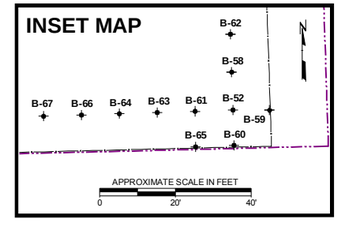
PLOT DATA:
Drawing Name: J:_TRC\Tecumseh Products\Tecumseh MI\220003\0000_2015 CSM Rpt\220003.0000.02.dwg
Operator Name: STEHLE, SARAH
Drawing Plot Scale: 0.000000
Drawing Plot Size: ANSI B
Dwg Size: 2.68 Mb
Plot Date: October 16, 2015
Plot Time: 11:51 AM
Attached Xref's: tec220103
Attached Images:
Layout: 11X25 Site Features & Demo Areas

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- 742.20 SURFACE WATER ELEVATION REFERENCE POINT
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- 770 5 FOOT GROUNDWATER CONTOUR LINE
- 771 1 FOOT GROUNDWATER CONTOUR LINE
- GROUNDWATER FLOW DIRECTION
- (780.26) GROUNDWATER / SURFACE WATER ELEVATION
- CROSS-SECTION LOCATION 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.
3. THE GROUNDWATER ELEVATION MEASURED AT MW-14D WAS USED TO DEVELOP GROUNDWATER CONTOURS, BECAUSE MW-14D IS SCREENED IN THE DEEPER WATER BEARING UNIT WHICH IS HYDRAULICALLY CONNECTED TO THE SITE. MW-14S WAS SCREENED IN A DIFFERENT, PERCHED, WATER BEARING UNIT THAN THE OTHER SHALLOW MONITORING WELLS ON-SITE AND HAS SINCE BEEN ABANDONED.
4. DUE TO THE PRESENCE OF AN INTERMEDIATE CLAY LAYER UNDERLAIN BY A HIGHLY PERMEABLE SAND AND GRAVEL UNIT, THE AQUIFER IS BIFURCATED AT MONITORING WELL MW-38S/D. BOTH THE SHALLOW AND THE DEEP WELLS ARE HYDRAULICALLY CONNECTED TO THE SITE. THE WATER LEVEL IN THE DEEPER WELL, WHICH IS SCREENED IN THE HIGHER PERMEABILITY UNIT, WAS USED TO ILLUSTRATE GROUNDWATER CONTOURS AND HORIZONTAL GRADIENT ACROSS THIS AREA.
5. MEASURED DEPTH TO GROUNDWATER IS ANOMALOUS. DATUM NOT USED.



0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
CROSS-SECTION LOCATION MAP AND GROUNDWATER CONTOUR MAP
MAY 2015

DRAWN BY:	DGS	SCALE:	
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DATE:	OCTOBER 2015		**FIGURE 3**

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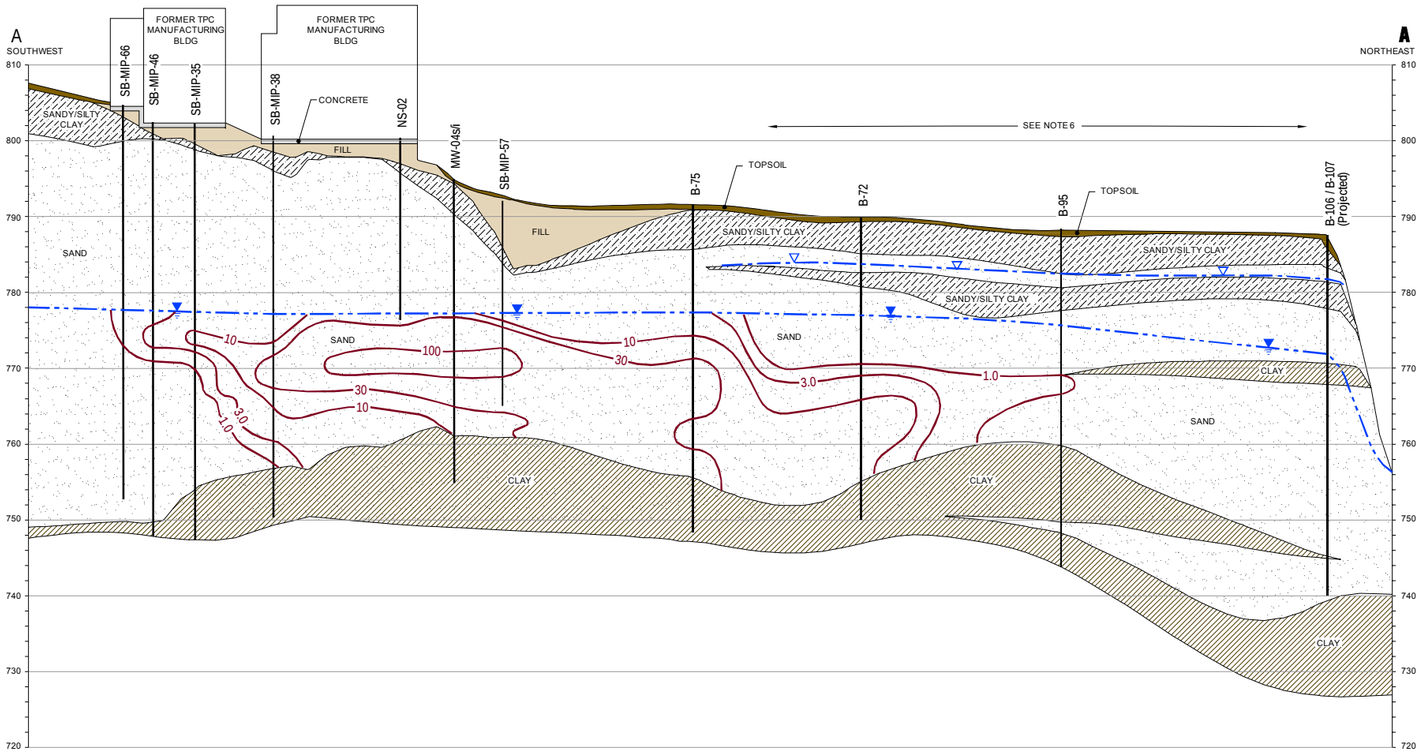

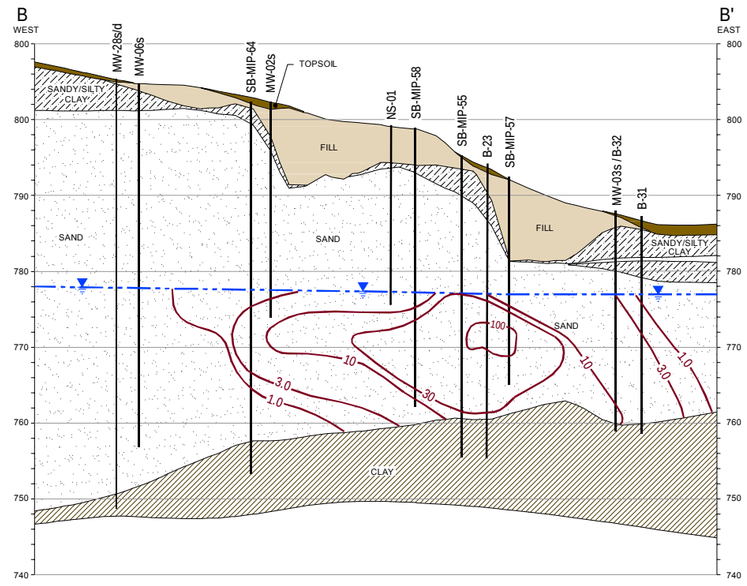

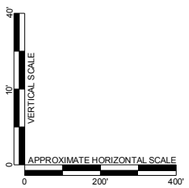

LEGEND

- TOPSOIL
- FILL
- SAND
- CLAY
- SANDY / SILTY CLAY
- CONCRETE
- APPROXIMATE GROUNDWATER ELEVATION
- PERCHED GROUNDWATER ELEVATION
- 100 — TOTAL CHLORINATED ETHENES ISOCONCENTRATION LINE (SEE NOTES 2, 3 AND 4)

NOTES

1. GROUNDWATER ELEVATIONS REFLECT ELEVATION DATA COLLECTED DURING THE MAY 2015 SAMPLING EVENT.
2. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
3. ISOCONCENTRATION LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE OUTPUTS AND KNOWLEDGE OF SITE GEOLOGY/HYDROGEOLOGY.
5. ISOCONCENTRATION LINES REPRESENT THE TOTAL CONCENTRATION (IN MICROMOLES PER LITER [uM]) OF CHLORINATED ETHENES (TETRACHLOROETHENE [PCE], TRICHLOROETHENE [TCE], cis-1,2-DICHLOROETHENE [cis-DCE], AND VINYL CHLORIDE [VC]) IN GROUNDWATER. MOLAR CONCENTRATIONS ARE USEFUL IN ILLUSTRATING TOTAL CONTAMINANT MASS. THE TABLE BELOW PROVIDES A COMPARISON BETWEEN MOLARITY AND MASS BASED CONCENTRATION UNITS.

MOLAR CONCENTRATION	PCE (ug/L)	TCE (ug/L)	cis-DCE (ug/L)	VC (ug/L)
1.0 uM	166	131	97.0	62.5
3.0 uM	497	394	291	188
10 uM	1,660	1,310	970	625
30 uM	4,970	3,940	2,910	1,880
100 uM	16,600	13,100	9,700	6,250

6. THE SURFICIAL SANDY/SILTY CLAY AND ASSOCIATED PERCHED GROUNDWATER HAS A THICKNESS GREATER THAN 8 FEET THROUGHOUT THIS AREA.

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

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

TITLE: **CROSS SECTIONS A - A' AND B - B'**

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DATE:	OCTOBER 2015		

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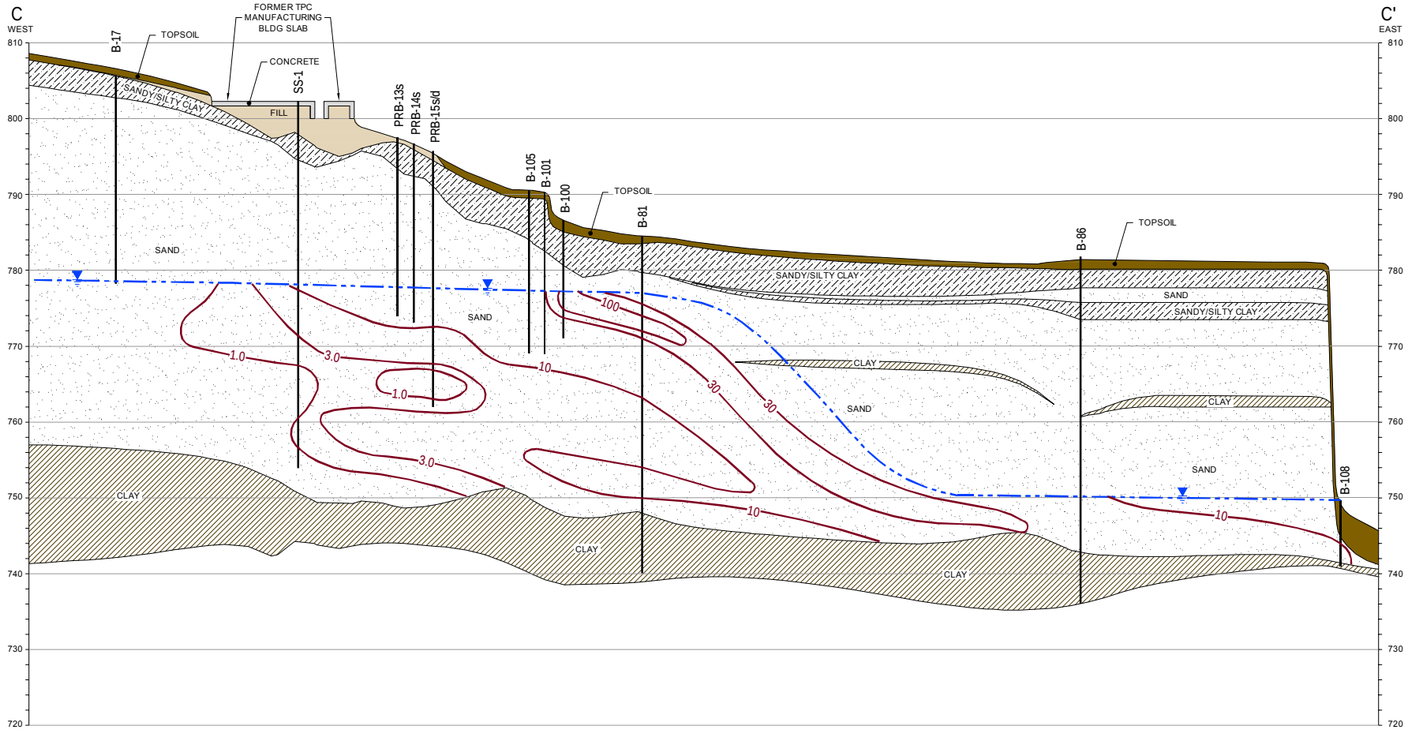
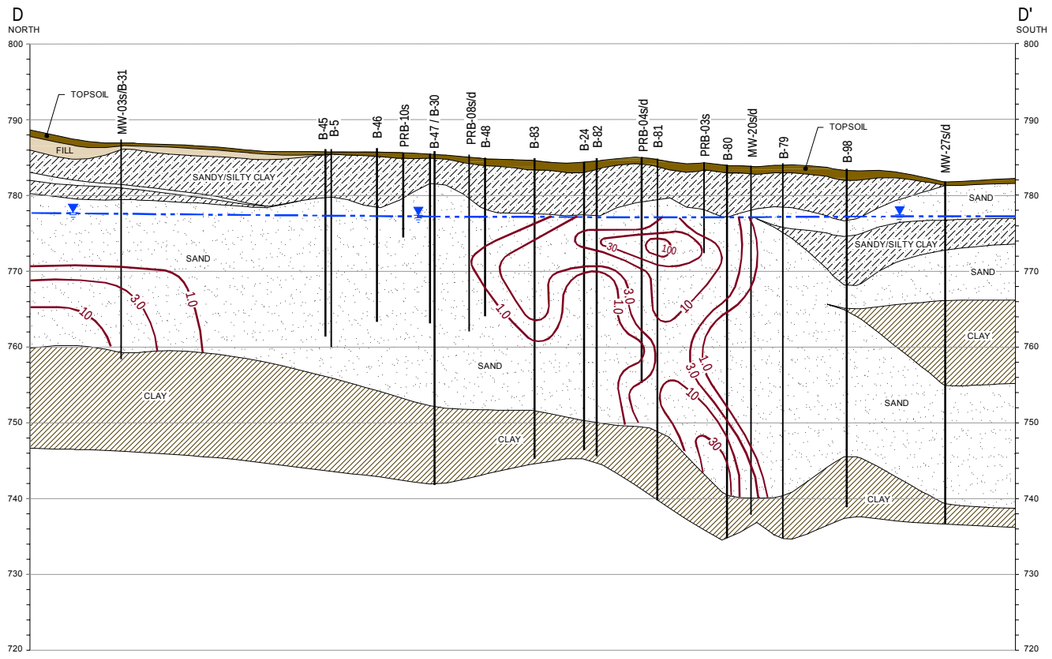
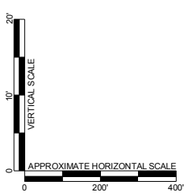
PLOT DATA:
Drawing Name: J:_TRC\Tecumseh Products\Tecumseh MI\220003\0000_2015 CSM Rpt\220003.0000.04-05.dwg
Operator Name: BTRHLE, DAWAH
Drawing Plot Scale: 0.500000
Drawing Plot Size: 22.00 inch(es) wide by 17.00 inch(es) high
Attached Xref's:
Attached Images: 22 in width, 720 cm width, 20 DD width; layout: 17004.tif,BG.tif
Dwg Size: 2.61 Mb
Plot Date: October 16, 2015
Plot Time: 1:07:16







LEGEND

- TOPSOIL
- FILL
- SAND
- CLAY
- SANDY / SILTY CLAY
- CONCRETE
- APPROXIMATE GROUNDWATER ELEVATION
- 100 — TOTAL CHLORINATED ETHENES ISOCONCENTRATION LINE (SEE NOTES 2, 3 AND 4)

NOTES

1. GROUNDWATER ELEVATIONS REFLECT ELEVATION DATA COLLECTED DURING THE MAY 2015 SAMPLING EVENT.
2. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
3. ISOCONCENTRATION LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE OUTPUTS AND KNOWLEDGE OF SITE GEOLOGY/HYDROGEOLOGY.
5. ISOCONCENTRATION LINES REPRESENT THE TOTAL CONCENTRATION (IN MICROMOLES PER LITER [uM]) OF CHLORINATED ETHENES (TETRACHLOROETHENE [PCE], TRICHLOROETHENE [TCE], cis-1,2-DICHLOROETHENE [cis-DCE], AND VINYL CHLORIDE [VC]) IN GROUNDWATER. MOLAR CONCENTRATIONS ARE USEFUL IN ILLUSTRATING TOTAL CONTAMINANT MASS. THE TABLE BELOW PROVIDES A COMPARISON BETWEEN MOLARITY AND MASS BASED CONCENTRATION UNITS.

MOLAR CONCENTRATION	PCE (ug/L)	TCE (ug/L)	cis-DCE (ug/L)	VC (ug/L)
1.0 uM	166	131	97.0	62.5
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10 uM	1,660	1,310	970	625
30 uM	4,970	3,940	2,910	1,880
100 uM	16,600	13,100	9,700	6,250

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJECT:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
CROSS SECTIONS C - C' AND D-D'

DRAWN BY:	DGS	SCALE:	AS INDICATED
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DATE:	OCTOBER 2015	DATE PRINTED:	

FIGURE 5

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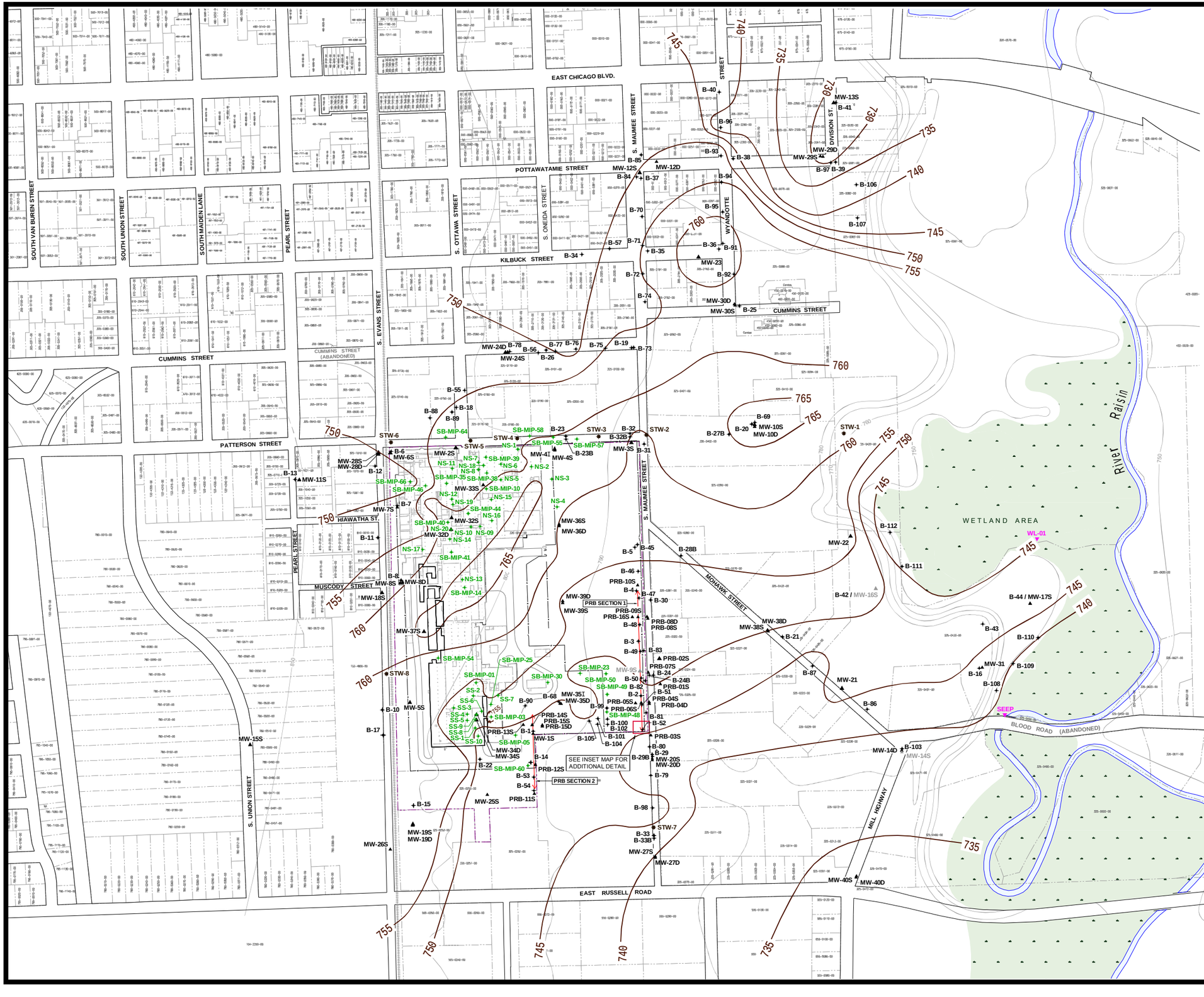


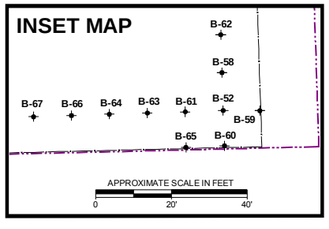
LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- STW-2 ✱ STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- 765 — 5 FOOT TOP OF CLAY CONFINING UNIT CONTOUR 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.
3. CLAY CONTOURS DEVELOPED USING OUTPUTS FROM ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE.

INSET MAP



0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
ELEVATION AT THE TOP OF CLAY CONFINING UNIT

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DATE:	OCTOBER 2015		

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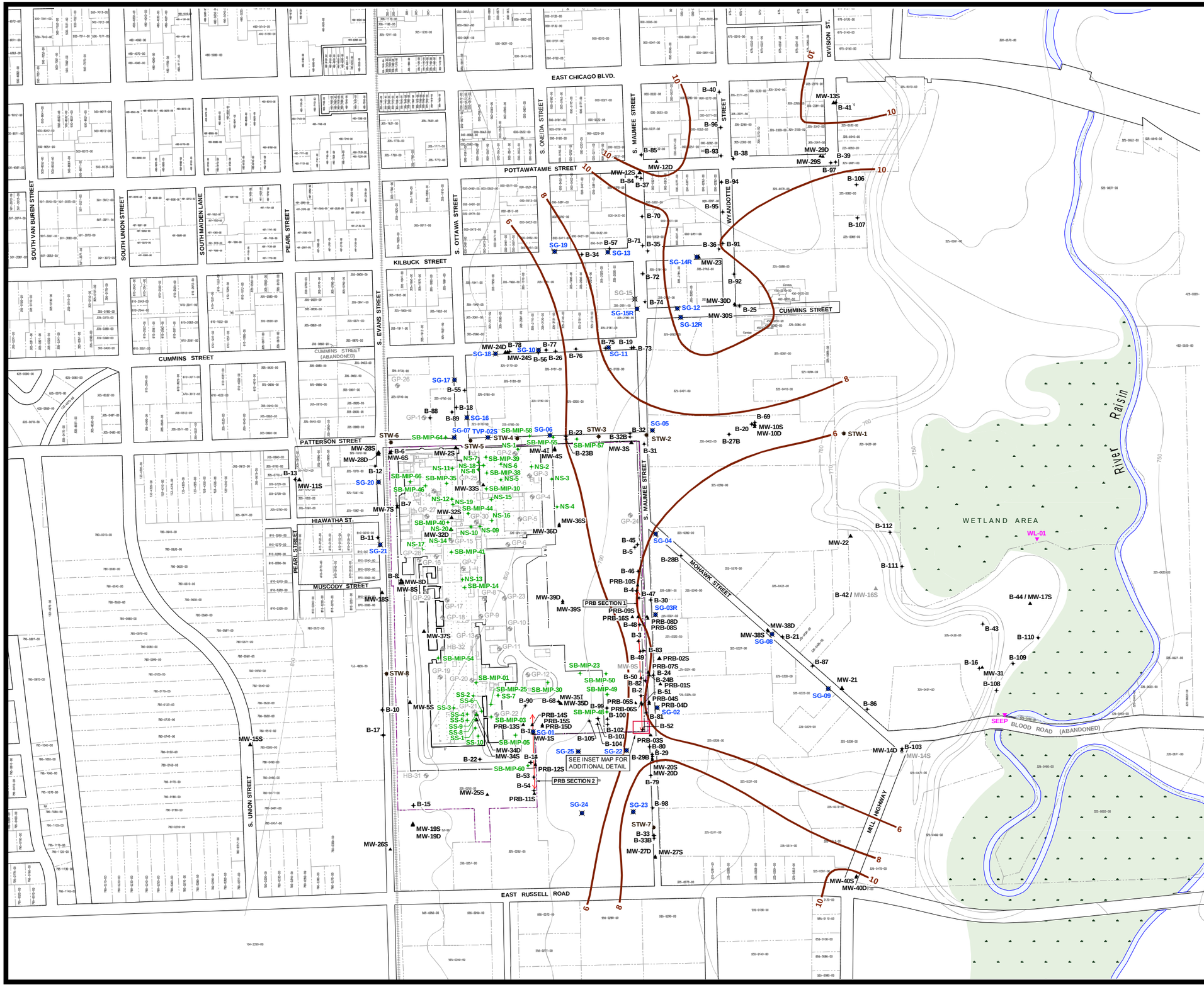


LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

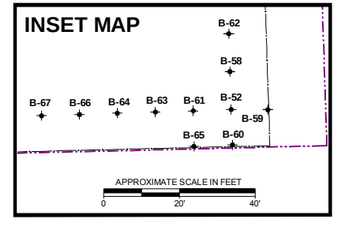
KEY

8 — DEPTH IN FEET TO THE BOTTOM OF THE SURFICIAL SILTY/SANDY CLAY UNIT

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.
3. BECAUSE ANTHROPOLOGIC ACTIVITIES IN DEVELOPED AREAS ARE EXPECTED TO AFFECT NEAR SURFACE GEOLOGY, DEPTH CONTOURS FOR THE SURFICIAL SILTY/SANDY CLAY ARE NOT DRAWN FOR DEPTHS LESS THAN SIX FEET.

INSET MAP



0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

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

TITLE: **THICKNESS OF SURFICIAL LOW PERMEABILITY ZONE**

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DATE:	OCTOBER 2015		

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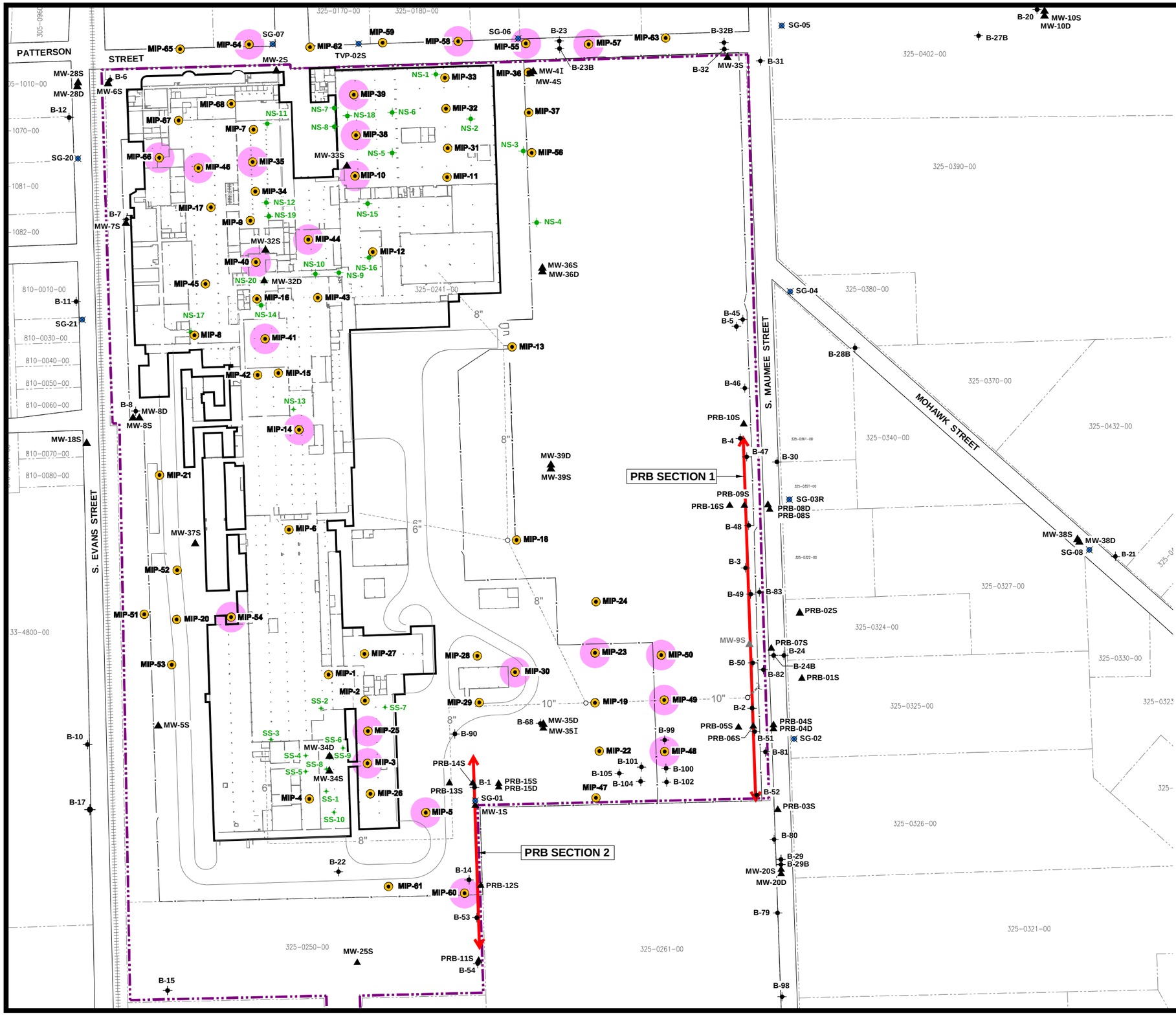

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- B-2 — PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S — MONITORING WELL LOCATION AND NUMBER
- MW-9S — DECOMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 — SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 — SOIL GAS SAMPLE LOCATION AND NUMBER
- 8" — PIPE DIAMETER AND APPROXIMATE LOCATION OF ON-SITE SANITARY SEWER
- PRB LOCATION
- FENCE LINE
- MIP-57 — MEMBRANE INTERFACE PROBE (MIP) LOCATION AND NUMBER
- MIP CONFIRMATION SAMPLE 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.

0 100' 200' 300' 400'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2	DGS	04/28/15	MIP-66 ADDED	SEM
1	DGS	03/04/15	ADDITIONAL CONFIRMATION SAMPLE LOCATIONS ADDED	SEM

PROJ: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: MIP INVESTIGATION LOCATIONS

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DATE:	OCTOBER 2015		

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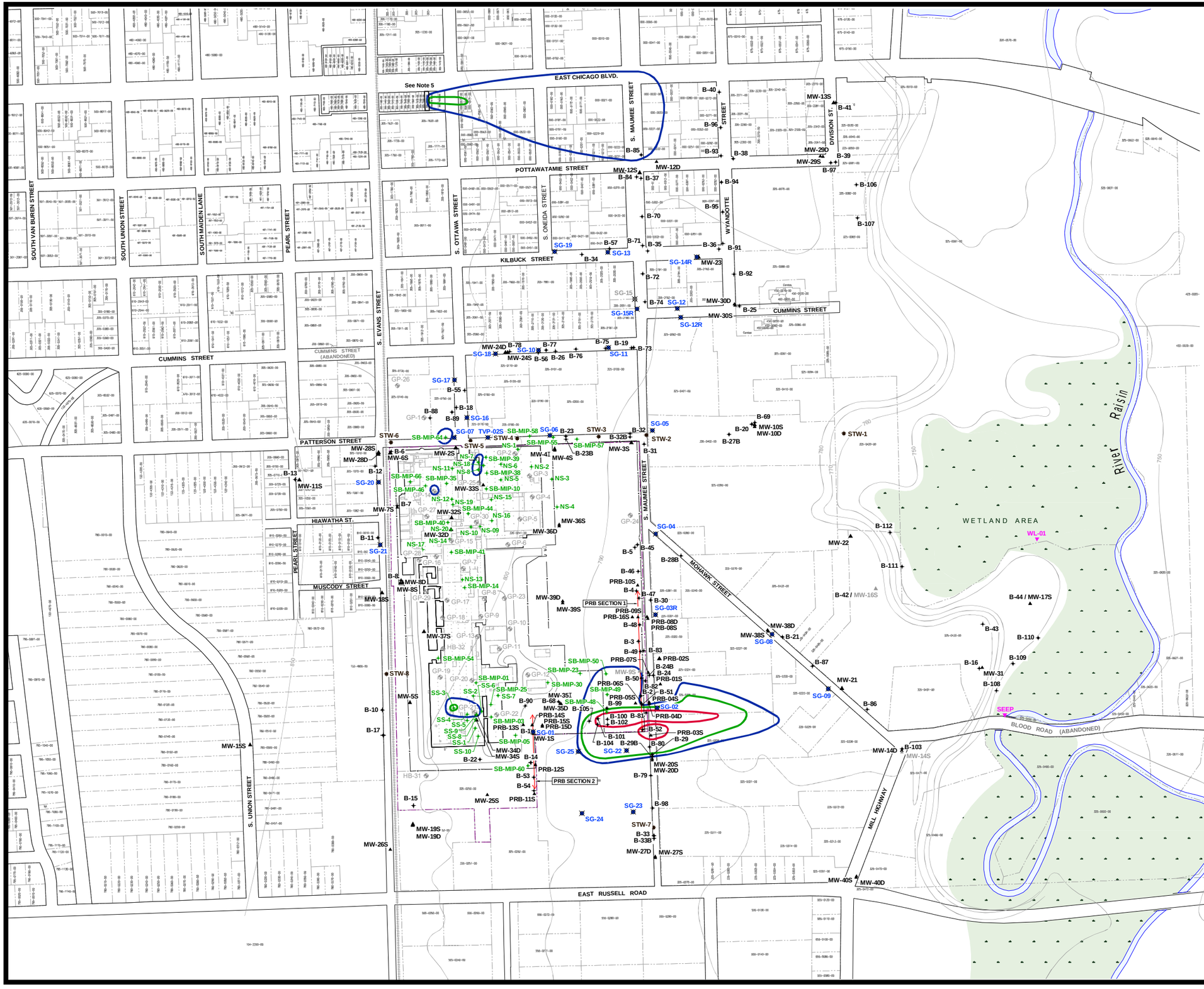

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

KEY

- EXTENT OF TETRACHLOROETHENE (PCE) ABOVE MICHIGAN PART 201 DRINKING WATER CRITERION (5 ug/L)
- EXTENT OF PCE ABOVE MICHIGAN PART 201 SURFACE WATER INTERFACE CRITERION (60 ug/L)
- EXTENT OF PCE ABOVE 2000 ug/L

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.
3. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
4. ISOCONCENTRATION LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE OUTPUTS AND KNOWLEDGE OF SITE GEOLOGY/HYDROGEOLOGY.
5. PARCEL NUMBER 305-1600-00 IS THE LOCATION OF A FORMER DRY CLEANER WITH DOCUMENTED PCE CONTAMINATION IN SOIL AND GROUNDWATER. ISOCONCENTRATION LINES EXTRAPOLATED BEYOND THE MODEL AREA BASED ON PHASE II SITE INVESTIGATION DATA COLLECTED DURING SITE REDEVELOPMENT.

0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
LATERAL DISTRIBUTION OF TETRACHLOROETHENE IN GROUNDWATER

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DATE:	OCTOBER 2015		

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EAST CHICAGO BLVD.
POTTAWATAMIE STREET
KILBUCK STREET
CUMMINS STREET
CUMMINS STREET (ABANDONED)
PATTERSON STREET
HIAWATHA ST.
MUSCODY STREET
EAST RUSSELL ROAD
BLOOD ROAD (ABANDONED)
MILL HIGHWAY
MOHAWK STREET
SOUTH VAN BUREN STREET
SOUTH UNION STREET
SOUTH MAIDEN LANE
PEARL STREET
S. EVANS STREET
S. OTTAWA STREET
S. ONEIDA STREET
S. MAUMEE STREET
WYANDOTTE STREET
DIVISION ST.
S. UNION STREET
River Raisin
WETLAND AREA
SEEP
PRB SECTION 1
PRB SECTION 2
SEE INSET MAP FOR ADDITIONAL DETAIL

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

KEY

- EXTENT OF TRICHLOROETHENE (TCE) ABOVE THE MICHIGAN PART 201 DRINKING WATER CRITERION (5 ug/L)
- EXTENT OF TCE ABOVE THE MICHIGAN PART 201 GROUNDWATER SURFACE WATER INTERFACE CRITERION (200 ug/L)
- EXTENT OF TCE ABOVE 2000 ug/L
- EXTENT OF TCE ABOVE 11,000 ug/L

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.
3. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
4. ISOCONCENTRATION LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE AND KNOWLEDGE OF SITE GEOLOGY/ HYDROGEOLOGY.

INSET MAP

APPROXIMATE SCALE IN FEET
0 20' 40'

0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: LATERAL DISTRIBUTION OF TRICHLOROETHENE IN GROUNDWATER

DRAWN BY:	DGS	SCALE:	PROJ. NO. 220003.0000
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DATE:	OCTOBER 2015		FIGURE 10

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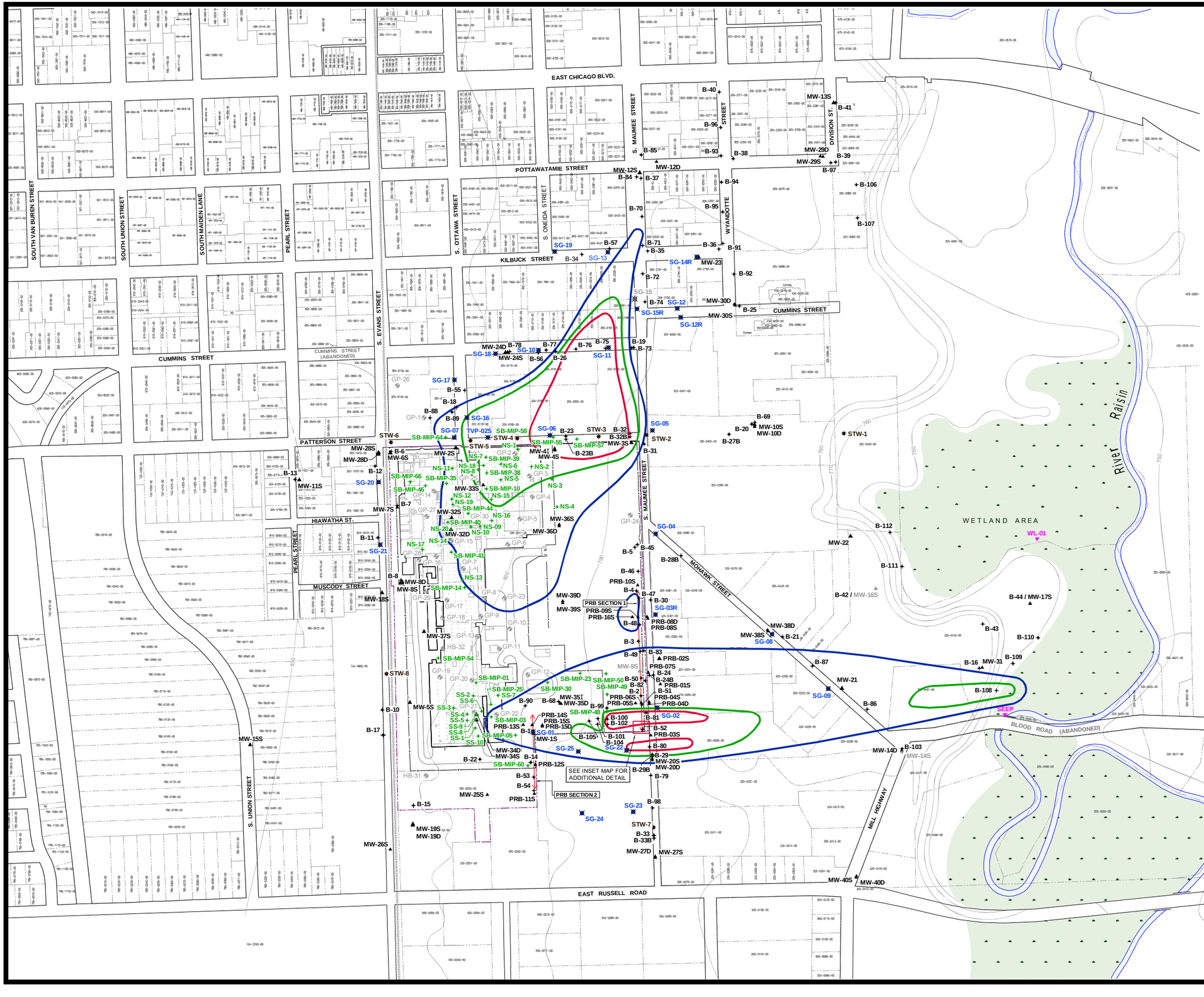


LEGEND

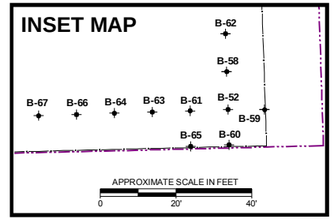
- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊕ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

KEY

- EXTENT OF cis-1,2-DICHLOROETHENE (cis-DCE) ABOVE THE MICHIGAN PART 201 DRINKING WATER CRITERION (70 ug/L)
- EXTENT OF cis-DCE ABOVE THE MICHIGAN PART 201 GROUNDWATER SURFACE WATER INTERFACE CRITERION (620 ug/L)
- EXTENT OF cis-DCE ABOVE 2000 ug/L

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.
3. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
4. ISOCONCENTRATIONN LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE AND KNOWLEDGE OF SITE GEOLOGY/HYDROGEOLOGY.



0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
LATERAL DISTRIBUTION OF cis-1,2-DICHLOROETHENE IN GROUNDWATER

DRAWN BY:	DGS	SCALE:	PROJ. NO. 220003.0000
CHECKED BY:	SEM	AS INDICATED	FILE NO. 220003.0000.11.dwg
APPROVED BY:	GC	DATE PRINTED:	**FIGURE 11**
DATE:	OCTOBER 2015		

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EAST CHICAGO BLVD.

POTTAWATAMIE STREET

KILBUCK STREET

CUMMINS STREET

CUMMINS STREET (ABANDONED)

PATTERSON STREET

HIAWATHA ST.

MUSCODY STREET

EAST RUSSELL ROAD

BLOOD ROAD (ABANDONED)

SOUTH VAN BUREN STREET

SOUTH UNION STREET

SOUTH MAIDEN LANE

PEARL STREET

S. EVANS STREET

S. ONEIDA STREET

S. OTTAWA STREET

S. MAUMEE STREET

WYANDOTTE STREET

DIVISION ST.

MOHAWK STREET

MILL HIGHWAY

Raisin River

WETLAND AREA

SEE INSET MAP FOR ADDITIONAL DETAIL

PRB SECTION 1

PRB SECTION 2

SEEP

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ⬢ STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

KEY

- EXTENT OF VINYL CHLORIDE (VC) ABOVE THE MICHIGAN PART 201 DRINKING WATER CRITERION (2 ug/L)
- EXTENT OF VC ABOVE THE MICHIGAN PART 201 GROUNDWATER SURFACE WATER INTERFACE CRITERION (13 ug/L)
- EXTENT OF VC ABOVE 200 ug/L
- EXTENT OF VC ABOVE 1,000 ug/L

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.
3. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
4. ISOCONCENTRATION LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE AND KNOWLEDGE OF SITE GEOLOGY/ HYDROGEOLOGY.

INSET MAP

B-62, B-58, B-67, B-66, B-64, B-63, B-61, B-52, B-59, B-65, B-60

APPROXIMATE SCALE IN FEET
0 20' 40'

N

0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: LATERAL DISTRIBUTION OF VINYL CHLORIDE IN GROUNDWATER

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APPROVED BY:	GC	DATE PRINTED:	
DATE:	OCTOBER 2015		

PROJ. NO. 220003.0000
FILE NO. 220003.0000.12.dwg

FIGURE 12

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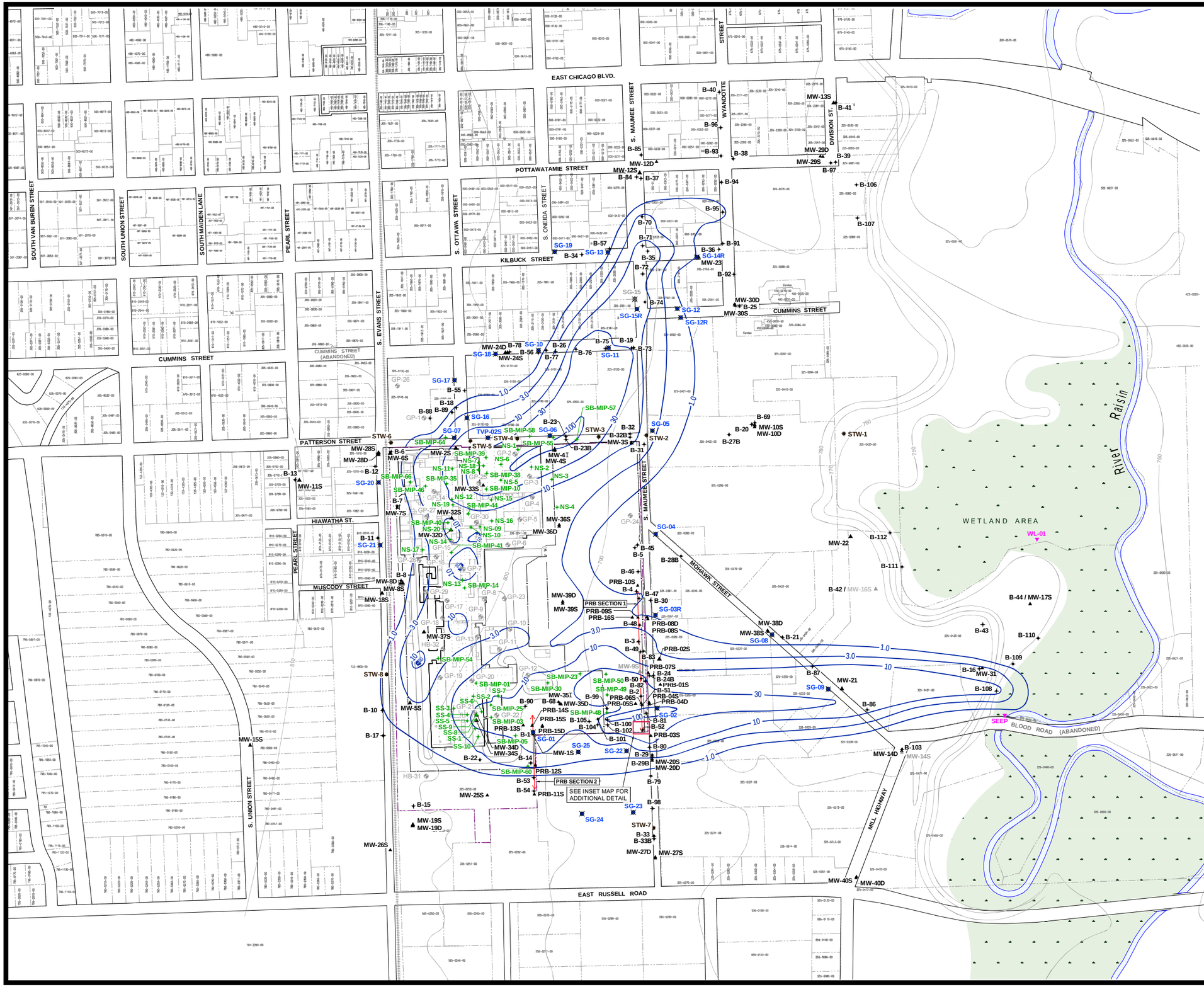

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- 3.0 TOTAL CHLORINATED ETHENE ISOCONCENTRATION LINE (SEE NOTES 3, 4 AND 5)

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.
3. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
4. ISOCONCENTRATION LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE AND KNOWLEDGE OF SITE GEOLOGY/ HYDROGEOLOGY.
5. ISOCONCENTRATION LINES REPRESENT THE TOTAL CONCENTRATION (IN MICROMOLES PER LITER [uM]) OF CHLORINATED ETHENES (TETRACHLOROETHENE [PCE], TRICHLOROETHENE [TCE], cis-1,2-DICHLOROETHENE [cis-DCE], AND VINYL CHLORIDE [VC]) IN GROUNDWATER. MOLAR CONCENTRATIONS ARE USEFUL IN ILLUSTRATING TOTAL CONTAMINANT MASS. THE TABLE BELOW PROVIDES A COMPARISON BETWEEN MOLARITY AND MASS BASED CONCENTRATION UNITS.

MOLAR CONCENTRATION	PCE (ug/L)	TCE (ug/L)	cis-DCE (ug/L)	VC (ug/L)
1.0 uM	166	131	97.0	62.5
3.0 uM	497	394	291	188
10 uM	1,660	1,310	970	625
30 uM	4,970	3,940	2,910	1,880
100 uM	16,600	13,100	9,700	6,250

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
LATERAL DISTRIBUTION OF CHLORINATED ETHENES IN GROUNDWATER

DRAWN BY:	DGS	SCALE:	PROJ. NO. 220003.0000
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DATE:	OCTOBER 2015		

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KILBUCK STREET
CUMMINS STREET
CUMMINS STREET (ABANDONED)
PATTERSON STREET
HIAWATHA ST.
MUSCODY STREET
EAST RUSSELL ROAD
SOUTH VAN BUREN STREET
SOUTH UNION STREET
SOUTH MAIDEN LANE
PEARL STREET
S. EVANS STREET
S. OTTAWA STREET
S. ONEIDA STREET
S. MAUMEE STREET
WYANDOTTE STREET
DIVISION ST.
MOHAWK STREET
MILL HIGHWAY
BLOOD ROAD (ABANDONED)
River Raisin
WETLAND AREA
SEE INSET MAP FOR ADDITIONAL DETAIL
PRB SECTION 1
PRB SECTION 2
SEEP

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

KEY

- EXTENT OF VOCs ABOVE THE MICHIGAN PART 201 DRINKING WATER CRITERIA
- EXTENT OF VOCs ABOVE THE MICHIGAN PART 201 GROUNDWATER SURFACE WATER INTERFACE CRITERIA
- BOUNDARY OF AREA WITH GROUNDWATER USE RESTRICTED BY A CITY OF TECUMSEH GROUNDWATER USE ORDINANCE

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.

INSET MAP

APPROXIMATE SCALE IN FEET
0 20' 40'

0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: EXTENT OF VOCs ABOVE MICHIGAN PART 201 CRITERIA

DRAWN BY:	DGS	SCALE:	PROJ. NO. 220003.0000
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APPROVED BY:	GC	DATE PRINTED:	FIGURE 14
DATE:	OCTOBER 2015		

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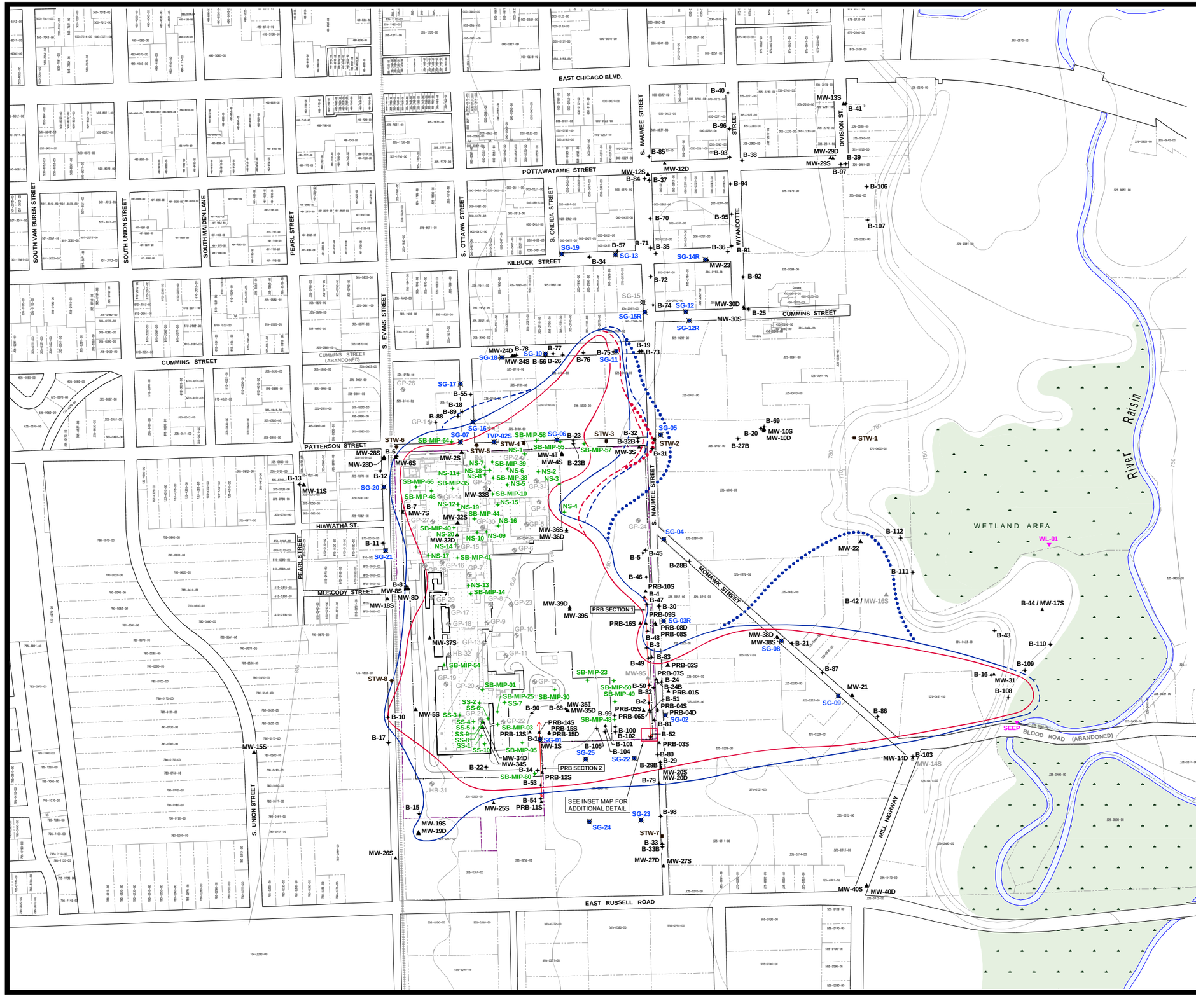


LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 ✦ PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊛ ATC PHASE II ESA BORING LOCATION AND NUMBER
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE

RESIDENTAL KEY

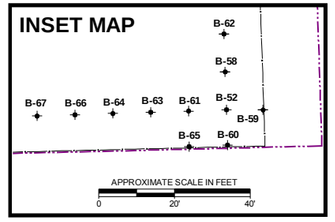
- EXTENT OF TCE ABOVE THE GENERIC RESIDENTIAL MDEQ GWSL (10 ug/L)
- EXTENT OF cis-DCE ABOVE THE GENERIC RESIDENTIAL MDEQ GWSL (83 ug/L) BEYOND THE LIMITS OF TCE ABOVE THE GWSL
- EXTENT OF VINYL CHLORIDE ABOVE THE GENERIC RESIDENTIAL MDEQ GWSL (2.8 ug/L) BEYOND THE LIMITS OF TCE AND cis-DCE ABOVE THE GWSLs

NON-RESIDENTAL KEY

- EXTENT OF TCE ABOVE THE GENERIC NON-RESIDENTIAL MDEQ GWSL (41 ug/L)
- EXTENT OF cis-DCE ABOVE THE GENERIC NON-RESIDENTIAL MDEQ GWSL (350 ug/L) BEYOND THE LIMITS OF TCE ABOVE THE GWSL
- EXTENT OF VINYL CHLORIDE ABOVE THE GENERIC NON-RESIDENTIAL MDEQ GWSL (52 ug/L) BEYOND THE LIMITS OF TCE AND cis-DCE ABOVE THE GWSLs

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.
3. SEE ASSOCIATED TABLES FOR FURTHER SAMPLE INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.). AT SAMPLE LOCATIONS WITH MULTIPLE SAMPLING EVENTS, THE MOST RECENT SAMPLE DATA AS OF SEPTEMBER 2015 WAS USED.
4. ISOCONCENTRATION LINES WERE DEVELOPED USING ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) SOFTWARE OUTPUTS AND KNOWLEDGE OF SITE GEOLOGY/HYDROGEOLOGY.
5. VINYL CHLORIDE IS DETECTED ABOVE THE RESIDENTIAL GSWI IN THE UPPERMOST SAMPLE COLLECTED FROM THE AFFECTED AQUIFER AT SOIL BORINGS B-70, B-92 AND B-94. HOWEVER THIS AREA IS CHARACTERIZED BY AN ADDITIONAL (HIGHER) WATER BEARING UNIT THAT IS NOT HYDRAULICALLY CONNECTED TO THE SITE. THIS UNIT IS UNDERLAIN BY A SANDY/SILTY CLAY HAVING A DEPTH GREATER THAN A REASONABLE MAXIMUM BASEMENT DEPTH (8 FEET). AS SUCH, THIS UNAFFECTED PERCHED GROUNDWATER UNIT IS THE RELEVANT GROUNDWATER UNIT WHEN CONSIDERING THE VAPOR INTRUSION PATHWAY.



0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
EXTENT OF VOCs IN SHALLOW GROUNDWATER ABOVE MDEQ GWSLs FOR VAPOR INTRUSION

DRAWN BY:	DGS	SCALE:	PROJ NO. 220003.0000
CHECKED BY:	SEM	AS INDICATED	FILE NO. 220003.0000.15.dwg
APPROVED BY:	GC	DATE PRINTED:	**FIGURE 15**
DATE:	OCTOBER 2015		

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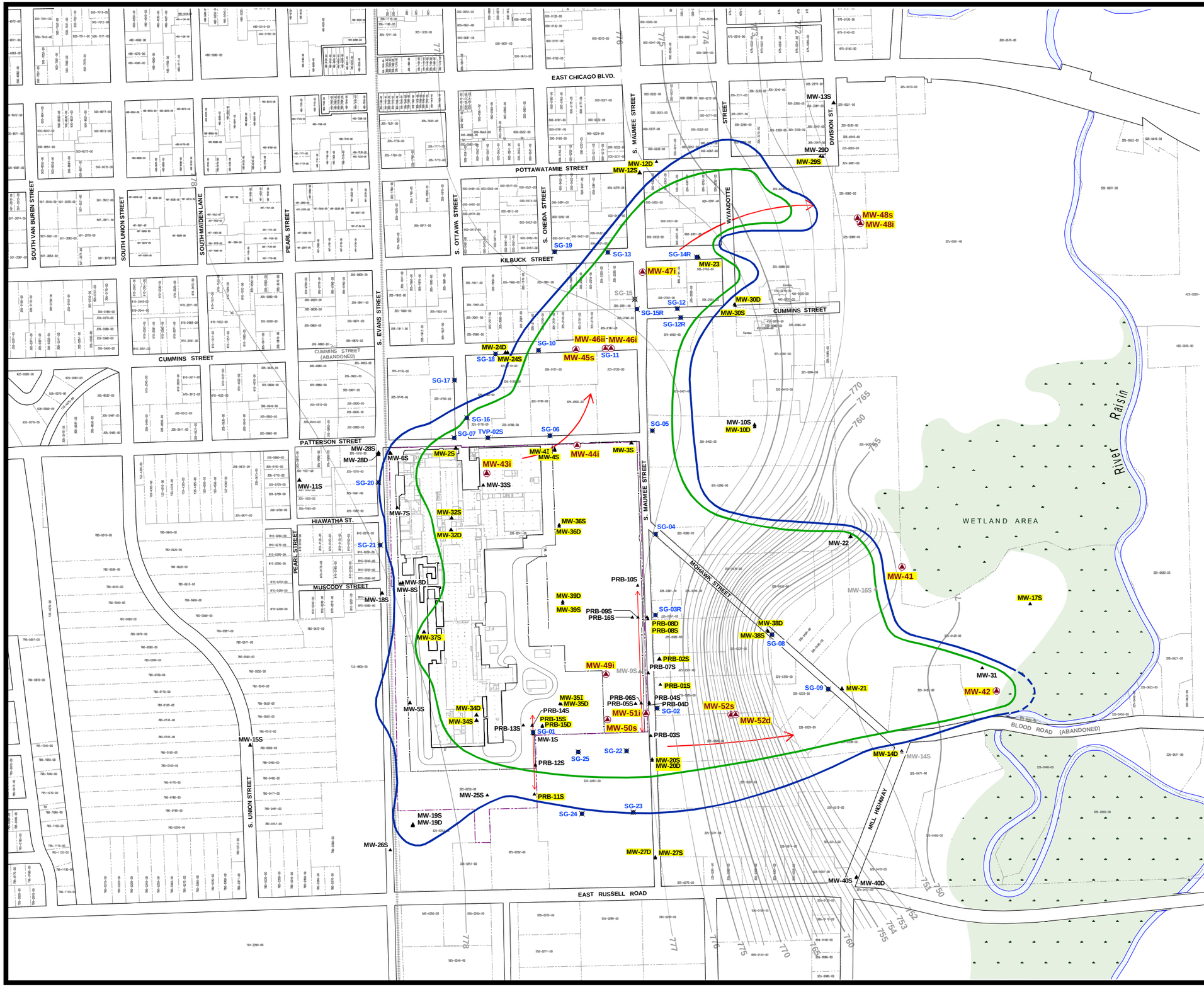

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- MW-4S — MONITORING WELL LOCATION AND NUMBER
- MW-9S — DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SG-02 — SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 — DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- MW-48i — PROPOSED WELL LOCATION AND NUMBER
- HIGHLIGHTED SAMPLE LOCATION INCLUDED IN PROPOSED VOC SAMPLING PROGRAM
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- 770 — 5 FOOT GROUNDWATER CONTOUR LINE
- 771 — 1 FOOT GROUNDWATER CONTOUR LINE
- GROUNDWATER FLOW DIRECTION

KEY

- EXTENT OF VOCs ABOVE THE MICHIGAN PART 201 DRINKING WATER CRITERIA
- EXTENT OF VOCs ABOVE THE MICHIGAN PART 201 GROUNDWATER SURFACE WATER INTERFACE 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.

0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
PROPOSED GROUNDWATER MONITORING PROGRAM

DRAWN BY:	DGS	SCALE:	PROJ. NO. 220003.0000
CHECKED BY:	SEM	AS INDICATED	FILE NO. 220003.0000.16.dwg
APPROVED BY:	GC	DATE PRINTED:	**FIGURE 16**
DATE:	OCTOBER 2015		

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Appendix A
Interactive Fence Diagram of Site Geology

The fence diagram contained in Appendix A is a three-dimensional interactive pdf. The image can be manipulated as described below:

- To ROTATE: LEFT CLICK (HOLD) and DRAG in the desired direction
- To ZOOM (METHOD 1): Use MOUSE ROLLER BALL to SCROLL UP/DOWN
- To ZOOM (METHOD 2): RIGHT CLICK (HOLD) and DRAG UP/DOWN
- To TRANSLATE: LEFT CLICK (HOLD) and RIGHT CLICK (HOLD) and DRAG

Appendix B
GSI Pathway Evaluation

Technical Memorandum

To:	Dale Bridgeford, MDEQ, Peter Quackenbush, MDEQ, Joseph Kelly, USEPA
From:	Stacy Metz and Graham Crockford
Subject:	**STATUS UPDATE** - Investigation of the Potential Groundwater to Surface Water Migration Pathway: Former Tecumseh Products Company Site in Tecumseh, Michigan (RCRA-05-2010-0012)
Date:	October 14, 2015
cc:	Jason Smith, Tecumseh Products Company Chris DeWetter, Tecumseh Products Company Douglas McClure, Conlin, McKenney & Philbrick, PC
Project No.:	220003.0001.0000

Tecumseh Products Company (TPC) retained TRC Environmental Corporation (TRC), to investigate soil and groundwater conditions at the former TPC site located in Tecumseh, Michigan. The potential for unacceptable risk to the environment related to the potential discharge of affected groundwater to nearby surface water and the wetlands was evaluated in the 2012 RI/EI Report. This evaluation included the development of site-specific mixing zone-based groundwater to surface water interface (GSI) criteria/*de minimis* determination on surface water, which was submitted to the Michigan Department of Environmental Quality (MDEQ) and the United Stated Environmental Protection Agency (USEPA) in June 2012 then revised and re-submitted in August 2013 to reflect MDEQ rule changes related to mixing zone determinations. MDEQ/USEPA reviewed the application and requested additional information in order to further review the mixing zone-based GSI.

Between April and June 2015, High Resolution Site Characterization (HRSC) activities were completed by TPC to supplement existing site characterization data and more precisely document the nature and extent of chlorinated volatile organic compounds (CVOCs) in groundwater. These data were useful in addressing some comments related to the GSI issues. In subsequent investigation activities completed in August and September 2015, TRC performed the following:

- **Verified the Approximate Boundary of Wetland Area:** Performed a site reconnaissance and a GPS survey to more precisely document the up gradient (western) perimeter of the wetland area, based on visual observations, prior to placement of GSI monitoring points.
- **Assessed Groundwater Quality at the Wetland Boundary:** Installed and sampled five hand-driven monitoring points (B-108 to B-112) along the up gradient perimeter of the wetland area,

down gradient from monitoring wells MW-22 and MW-31 at the locations shown on Figure 1; a conceptual cross section is attached as Figure 2. TRC collected groundwater levels relative to ground surface and adjacent wetland/surface water features to determine if water appears to be venting, or discharging to the wetlands, adjacent to the River Raisin, or directly into the river.

The laboratory report is included as Attachment A. These data are summarized on Table 1. Data showed that:

- **Groundwater data in one location exceeds generic GSI Criteria in groundwater underlying the wetland.** Groundwater samples from four of the five locations were below generic GSI criteria for all volatile organic compounds (VOCs). Samples collected from soil boring B-108 detected trichoroethene (1,200 µg/L), cis-1,2-dichloroethene (1,100 µg/L), and vinyl chloride (23 µg/L) above generic GSI criteria; but below the final acute values (FAVs). The potential venting area for VOCs to the wetland or river is limited to approximately 250 lineal feet along the western edge of the wetland from soil boring B-109, north of soil boring B-108, south to the seep sample location, as shown on Figure 1.
- **Groundwater elevation data show the potential for discharge to the wetland.** The first round of water levels have been collected, and water levels from sample location B-108 show there is a potential for venting to the wetland. Because groundwater is potentially venting to the wetland adjacent to the River Raisin above the generic GSI criteria, further investigation is appropriate.

Demonstrating GSI Pathway Compliance

In June 2014, the MDEQ released the draft guidance for GSI Pathway Compliance[1] to outline several approaches to address the GSI pathway. TRC has implemented several of these GSI compliance options at a variety of sites. Each site is unique, so it is important to consider site-specific conditions and use multiple lines of evidence in order to obtain GSI compliance, which may involve using a combination of the available options.

Because generic GSI criteria is exceeded and there is a potential for venting to a wetland, a mixing zone-based approach alone will not be successful in addressing GSI compliance, therefore, toxicity testing will be performed to demonstrate that potentially venting groundwater does not pose an ecological risk to wetland biota. If toxicity testing demonstrates that the affected groundwater does not pose an ecological risk to wetland biota, this data, in combination with a mixing-zone based approach for the River Raisin will be used to demonstrate GSI compliance. Proposed activities include:

- **Locating the area of highest VOC impacts:** Toxicity testing should be performed on the groundwater with the highest VOC concentrations that is potentially venting to the wetland. Therefore additional sampling will be completed to verify the location of highest VOC impacts. Additional VOC sampling is proposed for one additional shallower location immediately adjacent to soil boring B-108 (approximately 3-5 feet below ground surface [ft bgs]), a shallow

[1] MDEQ RRD, June 2014 Draft MDEQ Groundwater/Surface Water Interface Pathway Compliance Options, Remediation and Redevelopment Division Resource Materials.

(approximately 3-5 feet ft bgs) and a deep (approximately 6-9 ft bgs) sampling point located approximately 75 feet north of soil boring B-108, and a shallow (approximately 3-5 feet ft bgs) and a deep (approximately 6-9 ft bgs) sampling point located approximately 75 feet south of soil boring B-108.

- **Performance of Toxicity Testing:** Using the VOC sample data from these wells, TRC will select the sample location with the highest VOC concentrations for toxicity testing. At that location a groundwater sample will be collected for toxicity testing in order to determine whether or not the groundwater which has the potential to vent to the wetland poses an unacceptable ecological risk.
- **Establishment of Hydraulic Properties:** Even though the groundwater elevation data suggests that there is a potential to discharge to the wetland, because the wetland is underlain by a 2-3 foot layer of low permeability of organic rich muck, it is more likely that a bulk of the VOC mass flux is horizontal beneath the wetland and discharging to the River Raisin through the underlying more highly conductive sand layer. A professional survey of monitoring points will be used to establish groundwater elevation data so that hydraulic gradient relative to the existing monitoring well network can be established. In addition, *in situ* hydraulic conductivity testing, to facilitate calculation of groundwater discharge and mass flux through the wetland and to the River Raisin, will be completed so that precise values for these parameters can be used in the development of mixing zone based GSI criteria for compliance at the River Raisin.
- **GSI Compliance Points:** Once the aforementioned data is collected, appropriate GSI compliance points will be established so that monitoring of groundwater quality can be used to verify that GSI compliance is maintained.

Table 1

Table 1
Summary of Detected Volatile Organic Compounds in Groundwater at GSI Boring Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		Acetone	1,1-Dichloro-ethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Toluene[1]	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride
Residential DW Criteria		730	880	70	100	1,000	200	5.0	2.0
Non-Residential DW Criteria		2100	2,500	70	100	1,000	200	5.0	2.0
Residential GWSL for Vapor Intrusion		8.20E+06	4,300	83	360	36,000	17,000	10	2.8
Non-Residential GWSL for Vapor Intrusion		3.40E+07	18,000	350	1,500	1.50E+05	71,000	41	52
GSI Criteria		1700	740	620	1,500[2]	270	89	200[2]	13[2]
Groundwater Contact Criteria		3.10E+07	2.40E+06	2.00E+05	2.20E+05	5.30E+05	1.30E+06	13,000[3]	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
B-108 (5.6-8.6')	9/1/2015	<200	**15**	**1,100**	**11**	<10	**25**	**1,200**	**23**
B-109 (7.4-10.4')	9/1/2015	<20	**6.5**	**6.9**	<1.0	<1.0	<1.0	**2.7**	<1.0
B-109 (7.4-10.4') (DUP-01)	9/1/2015	<20	**6.6**	**7.1**	<1.0	<1.0	<1.0	**2.8**	<1.0
B-110 (7.3-10.3')	9/1/2015	**41**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
B-111 (3.3-6.3')	9/1/2015	<20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
B-112 (4.4-7.4')	9/1/2015	**25**	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria and Groundwater/Surface Water Interface (GSI) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, December 30, 2013. Groundwater Contact (GC) Criteria from MDEQ RRD Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, September 28, 2012. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were taken from the MDEQ Guidance Document for the Vapor Intrusion Pathway, May 2013.

ug/L = micrograms per liter

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

2) Criterion is not protective for surface water used as a drinking water source as described in footnote {X} of MDEQ Op Memo 1 Part 201, Attachment 1.

3) At the request of USEPA, a site-specific groundwater contact criteria for trichloroethene (TCE) was recalculated to reflect revised TCE toxicity data which were published by USEPA on September 28, 2011.

Figures

EAST CHICAGO BLVD.
POTTAWATAMIE STREET
KILBUCK STREET
CUMMINS STREET
CUMMINS STREET (ABANDONED)
PATTERSON STREET
HIAWATHA ST.
MUSCODY STREET
EAST RUSSELL ROAD
SEEP BLOOD ROAD (ABANDONED)
SOUTH VAN BUREN STREET
SOUTH UNION STREET
SOUTH MAIDEN LANE
PEARL STREET
S. EVANS STREET
S. ONEIDA STREET
S. OTTAWA STREET
S. MAUMEE STREET
DIVISION ST.
WYANDOTTE STREET
MOHAWK STREET
S. UNION STREET
MILL HIGHWAY
Raisin River
WETLAND AREA
PRB SECTION 1
PRB SECTION 2
SEE INSET MAP FOR ADDITIONAL DETAIL
A
A'

LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 + PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S ▲ MONITORING WELL LOCATION AND NUMBER
- MW-9S ▲ DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 + SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 ⊠ SOIL GAS SAMPLE LOCATION AND NUMBER
- SG-15 ⊠ DECOMMISSIONED SOIL GAS SAMPLE LOCATION AND NUMBER
- STW-2 ● STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- GP-2 ⊘ ATC PHASE II ESA BORING LOCATION AND NUMBER
- ⊗ PROPOSED DRIVE POINT WELL LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- GROUNDWATER FLOW DIRECTION
- CROSS-SECTION LOCATION

KEY

EXTENT OF VOCs ABOVE THE MICHIGAN PART 201 GROUNDWATER SURFACE WATER INTERFACE 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.

INSET MAP

B-62, B-58, B-67, B-66, B-64, B-63, B-61, B-52, B-59, B-65, B-60

APPROXIMATE SCALE IN FEET
0 20' 40'

0 250' 500' 750' 1000'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

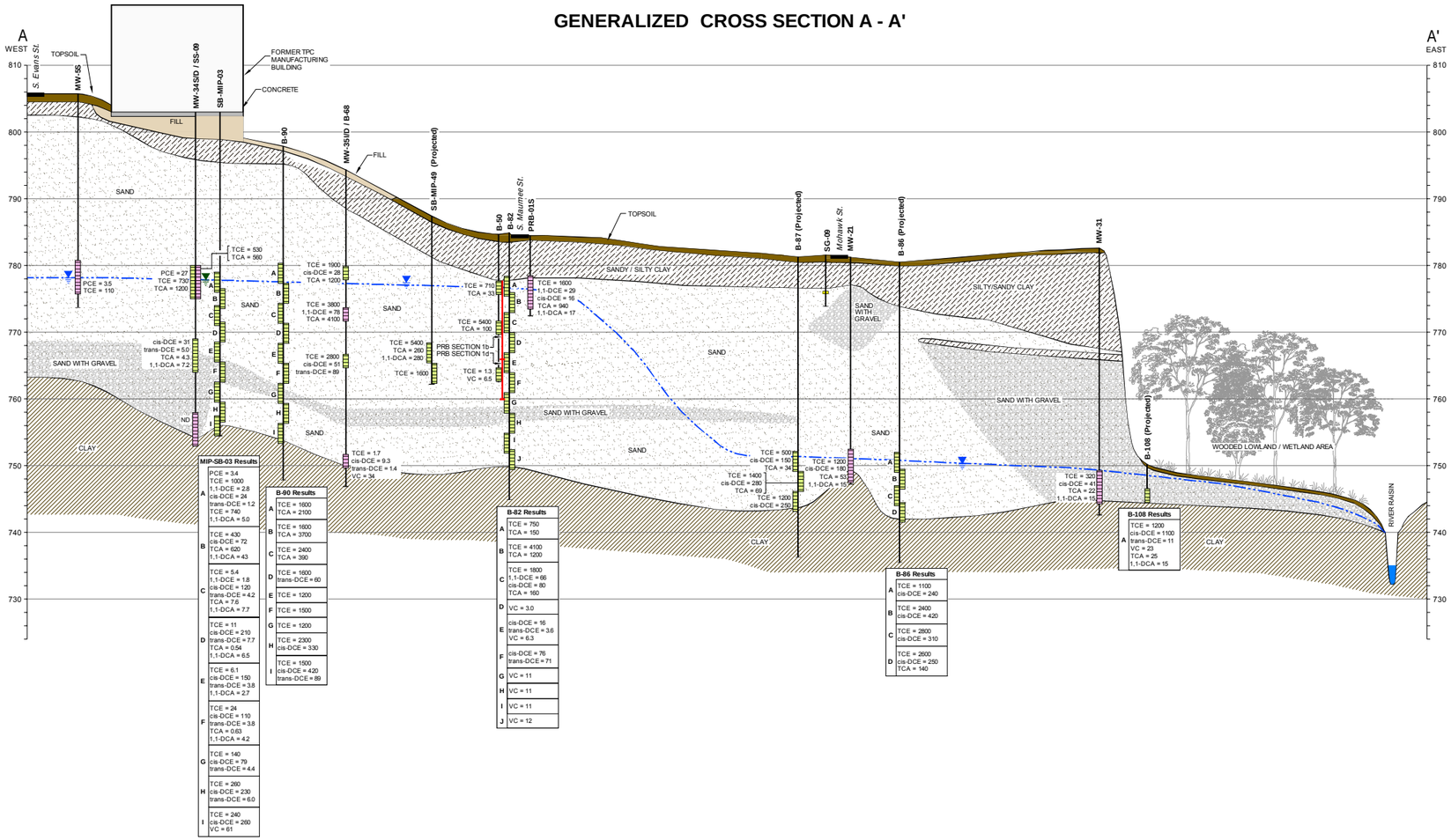
PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
EXTENT OF VOCs ABOVE GSI CRITERIA AND PROPOSED INVESTIGATION LOCATIONS

DRAWN BY:	DGS	SCALE: AS INDICATED	PROJ NO. 220003.0000
CHECKED BY:	SEM		FILE NO. 220003.0001.01.dwg
APPROVED BY:	GC	DATE PRINTED:	FIGURE 1
DATE:	OCTOBER 2015		

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108
Phone: 734.971.7080
Fax: 734.971.9022

GENERALIZED CROSS SECTION A - A'



LEGEND

- TOPSOIL
- SAND
- CLAY
- SILTY SAND
- SANDY / SILTY CLAY
- CONCRETE
- FILL
- COARSE GRAINED SOILS (5)
- STRATIGRAPHIC BOUNDARY BASED ON NEAREST SOIL BORING OR MONITORING WELL (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER ELEVATION
- PIEZOMETRIC WATER LEVEL INDICATOR (DEEP WELL)
- TEMPORARY WELL SCREEN
- WELL SCREEN
- SOIL GAS SAMPLE POINT 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

NOTES

1. GROUND SURFACE AND STRATIGRAPHIC CONTACTS ARE APPROXIMATE AND EXTRAPOLATED FROM NEAREST SOIL BORING DATA.
2. SEE FIGURE 1 FOR LOCATION / ORIENTATION OF THIS GEOLOGIC CROSS SECTION.
3. GROUNDWATER ANALYTICAL DATA AND GROUNDWATER ELEVATIONS REFLECT THE MOST RECENT SAMPLE EVENT AS OF SEPTEMBER 2015.
4. DETECTED GROUNDWATER CONCENTRATIONS FOR CONSTITUENTS OF HIGHEST CONCERN ARE PROVIDED IN MICROGRAMS PER LITER.
5. COARSE GRAINED SOILS INCLUDE FINE GRAVEL, GRAVEL WITH SAND, SAND WITH GRAVEL, AND COARSE SAND.

VERTICAL SCALE: 0, 10', 20'

APPROXIMATE HORIZONTAL SCALE: 0, 200', 400'

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

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

TITLE: **CROSS SECTION A - A'**

DRAWN BY:	DGS	SCALE:	PROJ. NO. 220003.0000
CHECKED BY:	SM	AS INDICATED	FILE NO. 220003.0001.02.dwg
APPROVED BY:	GC	DATE PRINTED:	**FIGURE 2**
DATE:	OCTOBER 2015		

TRC
1540 Eisenhower Place
Ann Arbor, MI 48108
Phone: 734.971.7080
Fax: 734.971.9022

PLOT DATA
Drawing Name: J:_TRC\Tecumseh Products\Tecumseh Mi\220003\0001_2016 GSI Update\220003.0001.02.dwg
Operator Name: STEWALE DAWAH
Drawing Plot Scale: 0.00000

Dwg Size: 1.00 kb
Plot Date: October 06, 2015
Plot Time: 11:21 AM

Attached Xref:
Attached Image:
Layout: FIGS 2/3 AA

Attachment A
Laboratory Report

September 14, 2015

TRC Companies. - Ann Arbor Office
Attn: Ms. Stacy Metz
1540 Eisenhower Place
Ann Arbor, MI 48108

Project: Tecumseh Products Groundwater

Dear Ms. Stacy Metz,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1509063	09/02/2015	Laboratory Services

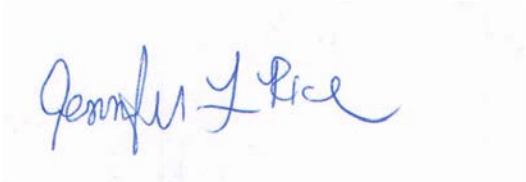
This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



Jennifer L. Rice
Project Chemist

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

Volatile Organic Compounds by EPA Method 8260B

Qualification: The sample was received at an incorrect preservation pH.

Analysis: USEPA-8260B

Sample: 1509063-01 B-110 (7.3-10.3')

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1509063-01	B-110 (7.3-10.3')	Bromomethane
1509063-01	B-110 (7.3-10.3')	Carbon Disulfide
1509063-02	DUP-01	Bromomethane
1509063-02	DUP-01	Carbon Disulfide
1509063-03	B-109 (7.4-10.4')	Bromomethane
1509063-03	B-109 (7.4-10.4')	Carbon Disulfide
1509063-04	B-108 (5.6-8.6')	Bromomethane
1509063-04	B-108 (5.6-8.6')	Carbon Disulfide
1509063-05	B-111 (3.3-6.3')	Bromomethane
1509063-05	B-111 (3.3-6.3')	Carbon Disulfide
1509063-06	B-112 (4.4-7.4')	Bromomethane
1509063-06	B-112 (4.4-7.4')	Carbon Disulfide
1509063-07	TB-01	Bromomethane
1509063-07	TB-01	Carbon Disulfide

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**B-110 (7.3-10.3')**	Sampled:	09/01/15 12:20
Lab Sample ID:	**1509063-01**	Sampled By:	Javier Jasso
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 12:22 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	**41**	20
107-13-1	Acrylonitrile	<2.0	2.0
71-43-2	Benzene	<1.0	1.0
108-86-1	Bromobenzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
*74-83-9	Bromomethane	<5.0	5.0
104-51-8	n-Butylbenzene	<1.0	1.0
135-98-8	sec-Butylbenzene	<1.0	1.0
98-06-6	tert-Butylbenzene	<1.0	1.0
*75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	1.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
541-73-1	1,3-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-71-8	Dichlorodifluoromethane	<5.0	5.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0

Continued on next page

*See Statement of Data Qualifications

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**B-110 (7.3-10.3')**	Sampled:	09/01/15 12:20
Lab Sample ID:	**1509063-01**	Sampled By:	Javier Jasso
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 12:22 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
60-29-7	Ethyl Ether	<5.0	5.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0
98-82-8	Isopropylbenzene	<1.0	1.0
99-87-6	4-Isopropyltoluene	<5.0	5.0
1634-04-4	Methyl tert-Butyl Ether	<5.0	5.0
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
91-57-6	2-Methylnaphthalene	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
91-20-3	Naphthalene	<5.0	5.0
103-65-1	n-Propylbenzene	<1.0	1.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
109-99-9	Tetrahydrofuran	<5.0	5.0
108-88-3	Toluene	<1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	<5.0	5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0	5.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	<1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	<1.0	1.0

Continued on next page

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**B-110 (7.3-10.3')**	Sampled:	09/01/15 12:20
Lab Sample ID:	**1509063-01**	Sampled By:	Javier Jasso
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 12:22 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-01-4	Vinyl Chloride	<1.0	1.0
179601-23-1	Xylene, Meta + Para	<2.0	2.0
95-47-6	Xylene, Ortho	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**DUP-01**	Sampled:	09/01/15 00:00
Lab Sample ID:	**1509063-02**	Sampled By:	Javier Jasso
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 12:51 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<2.0	2.0
71-43-2	Benzene	<1.0	1.0
108-86-1	Bromobenzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
*74-83-9	Bromomethane	<5.0	5.0
104-51-8	n-Butylbenzene	<1.0	1.0
135-98-8	sec-Butylbenzene	<1.0	1.0
98-06-6	tert-Butylbenzene	<1.0	1.0
*75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	1.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
541-73-1	1,3-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-71-8	Dichlorodifluoromethane	<5.0	5.0
75-34-3	1,1-Dichloroethane	**6.6**	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	**7.1**	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**DUP-01**	Sampled:	09/01/15 00:00
Lab Sample ID:	**1509063-02**	Sampled By:	Javier Jasso
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 12:51 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
60-29-7	Ethyl Ether	<5.0	5.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0
98-82-8	Isopropylbenzene	<1.0	1.0
99-87-6	4-Isopropyltoluene	<5.0	5.0
1634-04-4	Methyl tert-Butyl Ether	<5.0	5.0
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
91-57-6	2-Methylnaphthalene	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
91-20-3	Naphthalene	<5.0	5.0
103-65-1	n-Propylbenzene	<1.0	1.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
109-99-9	Tetrahydrofuran	<5.0	5.0
108-88-3	Toluene	<1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	<5.0	5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0	5.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	**2.8**	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	<1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**DUP-01**	Sampled:	09/01/15 00:00
Lab Sample ID:	**1509063-02**	Sampled By:	Javier Jasso
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 12:51 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-01-4	Vinyl Chloride	<1.0	1.0
179601-23-1	Xylene, Meta + Para	<2.0	2.0
95-47-6	Xylene, Ortho	<1.0	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-109 (7.4-10.4')**	Sampled:	09/01/15 10:48		
Lab Sample ID:	**1509063-03**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 13:19	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<2.0	2.0
71-43-2	Benzene	<1.0	1.0
108-86-1	Bromobenzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
*74-83-9	Bromomethane	<5.0	5.0
104-51-8	n-Butylbenzene	<1.0	1.0
135-98-8	sec-Butylbenzene	<1.0	1.0
98-06-6	tert-Butylbenzene	<1.0	1.0
*75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	1.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
541-73-1	1,3-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-71-8	Dichlorodifluoromethane	<5.0	5.0
75-34-3	1,1-Dichloroethane	**6.5**	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	**6.9**	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-109 (7.4-10.4')**	Sampled:	09/01/15 10:48		
Lab Sample ID:	**1509063-03**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 13:19	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
60-29-7	Ethyl Ether	<5.0	5.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0
98-82-8	Isopropylbenzene	<1.0	1.0
99-87-6	4-Isopropyltoluene	<5.0	5.0
1634-04-4	Methyl tert-Butyl Ether	<5.0	5.0
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
91-57-6	2-Methylnaphthalene	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
91-20-3	Naphthalene	<5.0	5.0
103-65-1	n-Propylbenzene	<1.0	1.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
109-99-9	Tetrahydrofuran	<5.0	5.0
108-88-3	Toluene	<1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	<5.0	5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0	5.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	**2.7**	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	<1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	<1.0	1.0

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-109 (7.4-10.4')**	Sampled:	09/01/15 10:48		
Lab Sample ID:	**1509063-03**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 13:19	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-01-4	Vinyl Chloride	<1.0	1.0
179601-23-1	Xylene, Meta + Para	<2.0	2.0
95-47-6	Xylene, Ortho	<1.0	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-108 (5.6-8.6')**	Sampled:	09/01/15 11:50		
Lab Sample ID:	**1509063-04**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	10	Analyzed:	09/08/15 15:59	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<200	200
107-13-1	Acrylonitrile	<20	20
71-43-2	Benzene	<10	10
108-86-1	Bromobenzene	<10	10
74-97-5	Bromochloromethane	<10	10
75-27-4	Bromodichloromethane	<10	10
75-25-2	Bromoform	<10	10
*74-83-9	Bromomethane	<50	50
104-51-8	n-Butylbenzene	<10	10
135-98-8	sec-Butylbenzene	<10	10
98-06-6	tert-Butylbenzene	<10	10
*75-15-0	Carbon Disulfide	<10	10
56-23-5	Carbon Tetrachloride	<10	10
108-90-7	Chlorobenzene	<10	10
75-00-3	Chloroethane	<50	50
67-66-3	Chloroform	<10	10
74-87-3	Chloromethane	<50	50
96-12-8	1,2-Dibromo-3-chloropropane	<50	50
124-48-1	Dibromochloromethane	<10	10
106-93-4	1,2-Dibromoethane	<10	10
74-95-3	Dibromomethane	<10	10
110-57-6	trans-1,4-Dichloro-2-butene	<10	10
95-50-1	1,2-Dichlorobenzene	<10	10
541-73-1	1,3-Dichlorobenzene	<10	10
106-46-7	1,4-Dichlorobenzene	<10	10
75-71-8	Dichlorodifluoromethane	<50	50
75-34-3	1,1-Dichloroethane	**15**	10
107-06-2	1,2-Dichloroethane	<10	10
75-35-4	1,1-Dichloroethene	<10	10
156-59-2	cis-1,2-Dichloroethene	**1100**	10
156-60-5	trans-1,2-Dichloroethene	**11**	10

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-108 (5.6-8.6')**	Sampled:	09/01/15 11:50		
Lab Sample ID:	**1509063-04**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	10	Analyzed:	09/08/15 15:59	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
78-87-5	1,2-Dichloropropane	<10	10
10061-01-5	cis-1,3-Dichloropropene	<10	10
10061-02-6	trans-1,3-Dichloropropene	<10	10
100-41-4	Ethylbenzene	<10	10
60-29-7	Ethyl Ether	<50	50
591-78-6	2-Hexanone	<50	50
74-88-4	Iodomethane	<10	10
98-82-8	Isopropylbenzene	<10	10
99-87-6	4-Isopropyltoluene	<50	50
1634-04-4	Methyl tert-Butyl Ether	<50	50
75-09-2	Methylene Chloride	<50	50
78-93-3	2-Butanone (MEK)	<50	50
91-57-6	2-Methylnaphthalene	<50	50
108-10-1	4-Methyl-2-pentanone (MIBK)	<50	50
91-20-3	Naphthalene	<50	50
103-65-1	n-Propylbenzene	<10	10
100-42-5	Styrene	<10	10
630-20-6	1,1,1,2-Tetrachloroethane	<10	10
79-34-5	1,1,2,2-Tetrachloroethane	<10	10
127-18-4	Tetrachloroethene	<10	10
109-99-9	Tetrahydrofuran	<50	50
108-88-3	Toluene	<10	10
87-61-6	1,2,3-Trichlorobenzene	<50	50
120-82-1	1,2,4-Trichlorobenzene	<50	50
71-55-6	1,1,1-Trichloroethane	**25**	10
79-00-5	1,1,2-Trichloroethane	<10	10
79-01-6	Trichloroethene	**1200**	10
75-69-4	Trichlorofluoromethane	<10	10
96-18-4	1,2,3-Trichloropropane	<10	10
95-63-6	1,2,4-Trimethylbenzene	<10	10
108-67-8	1,3,5-Trimethylbenzene	<10	10

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-108 (5.6-8.6')**	Sampled:	09/01/15 11:50		
Lab Sample ID:	**1509063-04**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	10	Analyzed:	09/08/15 15:59	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-01-4	Vinyl Chloride	**23**	10
179601-23-1	Xylene, Meta + Para	<20	20
95-47-6	Xylene, Ortho	<10	10

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-111 (3.3-6.3')**	Sampled:	09/01/15 14:25		
Lab Sample ID:	**1509063-05**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 15:31	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<2.0	2.0
71-43-2	Benzene	<1.0	1.0
108-86-1	Bromobenzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
*74-83-9	Bromomethane	<5.0	5.0
104-51-8	n-Butylbenzene	<1.0	1.0
135-98-8	sec-Butylbenzene	<1.0	1.0
98-06-6	tert-Butylbenzene	<1.0	1.0
*75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	1.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
541-73-1	1,3-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-71-8	Dichlorodifluoromethane	<5.0	5.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-111 (3.3-6.3')**	Sampled:	09/01/15 14:25		
Lab Sample ID:	**1509063-05**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 15:31	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
60-29-7	Ethyl Ether	<5.0	5.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0
98-82-8	Isopropylbenzene	<1.0	1.0
99-87-6	4-Isopropyltoluene	<5.0	5.0
1634-04-4	Methyl tert-Butyl Ether	<5.0	5.0
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
91-57-6	2-Methylnaphthalene	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
91-20-3	Naphthalene	<5.0	5.0
103-65-1	n-Propylbenzene	<1.0	1.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
109-99-9	Tetrahydrofuran	<5.0	5.0
108-88-3	Toluene	<1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	<5.0	5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0	5.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	<1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-111 (3.3-6.3')**	Sampled:	09/01/15 14:25		
Lab Sample ID:	**1509063-05**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 15:31	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-01-4	Vinyl Chloride	<1.0	1.0
179601-23-1	Xylene, Meta + Para	<2.0	2.0
95-47-6	Xylene, Ortho	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*112*	*87-122*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*105*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-112 (4.4-7.4')**	Sampled:	09/01/15 14:10		
Lab Sample ID:	**1509063-06**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 14:45	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	**25**	20
107-13-1	Acrylonitrile	<2.0	2.0
71-43-2	Benzene	<1.0	1.0
108-86-1	Bromobenzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
*74-83-9	Bromomethane	<5.0	5.0
104-51-8	n-Butylbenzene	<1.0	1.0
135-98-8	sec-Butylbenzene	<1.0	1.0
98-06-6	tert-Butylbenzene	<1.0	1.0
*75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	1.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
541-73-1	1,3-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-71-8	Dichlorodifluoromethane	<5.0	5.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-112 (4.4-7.4')**	Sampled:	09/01/15 14:10		
Lab Sample ID:	**1509063-06**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 14:45	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
60-29-7	Ethyl Ether	<5.0	5.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0
98-82-8	Isopropylbenzene	<1.0	1.0
99-87-6	4-Isopropyltoluene	<5.0	5.0
1634-04-4	Methyl tert-Butyl Ether	<5.0	5.0
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
91-57-6	2-Methylnaphthalene	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
91-20-3	Naphthalene	<5.0	5.0
103-65-1	n-Propylbenzene	<1.0	1.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
109-99-9	Tetrahydrofuran	<5.0	5.0
108-88-3	Toluene	**1.1**	1.0
87-61-6	1,2,3-Trichlorobenzene	<5.0	5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0	5.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	<1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	<1.0	1.0

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**		
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services		
Client Sample ID:	**B-112 (4.4-7.4')**	Sampled:	09/01/15 14:10		
Lab Sample ID:	**1509063-06**	Sampled By:	Javier Jasso		
Matrix:	Water	Received:	09/02/15 17:35		
Unit:	ug/L	Prepared:	09/08/15 08:00	By:	BAG
Dilution Factor:	1	Analyzed:	09/08/15 14:45	By:	BAG
QC Batch:	1509569	Analytical Batch:	5I09017		

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-01-4	Vinyl Chloride	<1.0	1.0
179601-23-1	Xylene, Meta + Para	<2.0	2.0
95-47-6	Xylene, Ortho	<1.0	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**TB-01**	Sampled:	09/01/15 00:00
Lab Sample ID:	**1509063-07**	Sampled By:	TML
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 11:54 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
67-64-1	Acetone	<20	20
107-13-1	Acrylonitrile	<2.0	2.0
71-43-2	Benzene	<1.0	1.0
108-86-1	Bromobenzene	<1.0	1.0
74-97-5	Bromochloromethane	<1.0	1.0
75-27-4	Bromodichloromethane	<1.0	1.0
75-25-2	Bromoform	<1.0	1.0
*74-83-9	Bromomethane	<5.0	5.0
104-51-8	n-Butylbenzene	<1.0	1.0
135-98-8	sec-Butylbenzene	<1.0	1.0
98-06-6	tert-Butylbenzene	<1.0	1.0
*75-15-0	Carbon Disulfide	<1.0	1.0
56-23-5	Carbon Tetrachloride	<1.0	1.0
108-90-7	Chlorobenzene	<1.0	1.0
75-00-3	Chloroethane	<5.0	5.0
67-66-3	Chloroform	<1.0	1.0
74-87-3	Chloromethane	<5.0	5.0
96-12-8	1,2-Dibromo-3-chloropropane	<5.0	5.0
124-48-1	Dibromochloromethane	<1.0	1.0
106-93-4	1,2-Dibromoethane	<1.0	1.0
74-95-3	Dibromomethane	<1.0	1.0
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	1.0
95-50-1	1,2-Dichlorobenzene	<1.0	1.0
541-73-1	1,3-Dichlorobenzene	<1.0	1.0
106-46-7	1,4-Dichlorobenzene	<1.0	1.0
75-71-8	Dichlorodifluoromethane	<5.0	5.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
107-06-2	1,2-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**TB-01**	Sampled:	09/01/15 00:00
Lab Sample ID:	**1509063-07**	Sampled By:	TML
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 11:54 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
78-87-5	1,2-Dichloropropane	<1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0	1.0
100-41-4	Ethylbenzene	<1.0	1.0
60-29-7	Ethyl Ether	<5.0	5.0
591-78-6	2-Hexanone	<5.0	5.0
74-88-4	Iodomethane	<1.0	1.0
98-82-8	Isopropylbenzene	<1.0	1.0
99-87-6	4-Isopropyltoluene	<5.0	5.0
1634-04-4	Methyl tert-Butyl Ether	<5.0	5.0
75-09-2	Methylene Chloride	<5.0	5.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
91-57-6	2-Methylnaphthalene	<5.0	5.0
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	5.0
91-20-3	Naphthalene	<5.0	5.0
103-65-1	n-Propylbenzene	<1.0	1.0
100-42-5	Styrene	<1.0	1.0
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	1.0
127-18-4	Tetrachloroethene	<1.0	1.0
109-99-9	Tetrahydrofuran	<5.0	5.0
108-88-3	Toluene	<1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	<5.0	5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0	5.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-69-4	Trichlorofluoromethane	<1.0	1.0
96-18-4	1,2,3-Trichloropropane	<1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	<1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	<1.0	1.0

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ANALYTICAL REPORT

Client:	**TRC Companies. - Ann Arbor Office**	Work Order:	**1509063**
Project:	Tecumseh Products Groundwater	Description:	Laboratory Services
Client Sample ID:	**TB-01**	Sampled:	09/01/15 00:00
Lab Sample ID:	**1509063-07**	Sampled By:	TML
Matrix:	Water	Received:	09/02/15 17:35
Unit:	ug/L	Prepared:	09/08/15 08:00 By: BAG
Dilution Factor:	1	Analyzed:	09/08/15 11:54 By: BAG
QC Batch:	1509569	Analytical Batch:	5I09017

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL
75-01-4	Vinyl Chloride	<1.0	1.0
179601-23-1	Xylene, Meta + Para	<2.0	2.0
95-47-6	Xylene, Ortho	<1.0	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1509569 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 09/08/2015 By: BAG
Unit: ug/L Analytical Batch: 5I09017

Acetone	<20			20
Acrylonitrile	<2.0			2.0
Benzene	<1.0			1.0
Bromobenzene	<1.0			1.0
Bromochloromethane	<1.0			1.0
Bromodichloromethane	<1.0			1.0
Bromoform	<1.0			1.0
Bromomethane	<5.0		--	5.0
n-Butylbenzene	<1.0		--	1.0
sec-Butylbenzene	<1.0		--	1.0
tert-Butylbenzene	<1.0			1.0
Carbon Disulfide	<1.0		--	1.0
Carbon Tetrachloride	<1.0			1.0
Chlorobenzene	<1.0			1.0
Chloroethane	<5.0			5.0
Chloroform	<1.0			1.0
Chloromethane	<5.0			5.0
1,2-Dibromo-3-chloropropane	<5.0			5.0
Dibromochloromethane	<1.0			1.0
1,2-Dibromoethane	<1.0			1.0
Dibromomethane	<1.0			1.0
trans-1,4-Dichloro-2-butene	<1.0			1.0
1,2-Dichlorobenzene	<1.0			1.0
1,3-Dichlorobenzene	<1.0		--	1.0
1,4-Dichlorobenzene	<1.0		--	1.0
Dichlorodifluoromethane	<5.0			5.0
1,1-Dichloroethane	<1.0			1.0
1,2-Dichloroethane	<1.0			1.0
1,1-Dichloroethene	<1.0			1.0
cis-1,2-Dichloroethene	<1.0			1.0
trans-1,2-Dichloroethene	<1.0			1.0
1,2-Dichloropropane	<1.0			1.0
cis-1,3-Dichloropropene	<1.0			1.0
trans-1,3-Dichloropropene	<1.0			1.0
Ethylbenzene	<1.0			1.0
Ethyl Ether	<5.0			5.0

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1509569 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 09/08/2015 By: BAG

Unit: ug/L Analytical Batch: 5I09017

2-Hexanone	<5.0					5.0
Iodomethane	<1.0					1.0
Isopropylbenzene	<1.0					1.0
4-Isopropyltoluene	<5.0				--	5.0
Methyl tert-Butyl Ether	<5.0					5.0
Methylene Chloride	<5.0				--	5.0
2-Butanone (MEK)	<5.0					5.0
2-Methylnaphthalene	<5.0				--	5.0
4-Methyl-2-pentanone (MIBK)	<5.0				--	5.0
Naphthalene	<5.0				--	5.0
n-Propylbenzene	<1.0					1.0
Styrene	<1.0					1.0
1,1,1,2-Tetrachloroethane	<1.0					1.0
1,1,2,2-Tetrachloroethane	<1.0					1.0
Tetrachloroethene	<1.0					1.0
Tetrahydrofuran	<5.0					5.0
Toluene	<1.0					1.0
1,2,3-Trichlorobenzene	<5.0				--	5.0
1,2,4-Trichlorobenzene	<5.0				--	5.0
1,1,1-Trichloroethane	<1.0					1.0
1,1,2-Trichloroethane	<1.0					1.0
Trichloroethene	<1.0					1.0
Trichlorofluoromethane	<1.0					1.0
1,2,3-Trichloropropane	<1.0					1.0
1,2,4-Trimethylbenzene	<1.0				--	1.0
1,3,5-Trimethylbenzene	<1.0					1.0
Vinyl Chloride	<1.0					1.0
Xylene, Meta + Para	<2.0					2.0
Xylene, Ortho	<1.0					1.0
Surrogates:						
Dibromofluoromethane			*97*	*85-118*		
1,2-Dichloroethane-d4			*100*	*87-122*		
Toluene-d8			*99*	*85-113*		

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1509569 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B								
Method Blank (Continued)					Analyzed:	09/08/2015		By: BAG
Unit: ug/L					Analytical Batch:	5I09017		
Surrogates (Continued):								
4-Bromofluorobenzene				*100*	*82-110*			
Laboratory Control Sample					Analyzed:	09/08/2015		By: BAG
Unit: ug/L					Analytical Batch:	5I09017		
Benzene		40.0	**41.0**	103	84-119	--		1.0
Chlorobenzene		40.0	**40.3**	101	84-118	--		1.0
1,1-Dichloroethene		40.0	**43.0**	108	77-123	--		1.0
Toluene		40.0	**41.0**	103	85-118	--		1.0
Trichloroethene		40.0	**38.8**	97	82-119	--		1.0
Surrogates:								
Dibromofluoromethane				*100*	*85-118*			
1,2-Dichloroethane-d4				*101*	*87-122*			
Toluene-d8				*100*	*85-113*			
4-Bromofluorobenzene				*99*	*82-110*			
Matrix Spike 1509063-06 B-112 (4.4-7.4')					Analyzed:	09/08/2015		By: BAG
Unit: ug/L					Analytical Batch:	5I09017		
Benzene	<1.0	40.0	**40.9**	102	80-129	--		1.0
Chlorobenzene	<1.0	40.0	**38.9**	97	80-121	--		1.0
1,1-Dichloroethene	<1.0	40.0	**43.6**	109	74-134	--		1.0
Toluene	1.12	40.0	**41.8**	102	79-129	--		1.0
Trichloroethene	0.290	40.0	**37.7**	94	75-127	--		1.0
Surrogates:								
Dibromofluoromethane				*102*	*85-118*			
1,2-Dichloroethane-d4				*101*	*87-122*			
Toluene-d8				*101*	*85-113*			
4-Bromofluorobenzene				*100*	*82-110*			
Matrix Spike Duplicate 1509063-06 B-112 (4.4-7.4')					Analyzed:	09/08/2015		By: BAG
Unit: ug/L					Analytical Batch:	5I09017		
Benzene	<1.0	40.0	**42.8**	107	80-129	4	9	1.0

Continued on next page

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1509569 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B								
Matrix Spike Duplicate (Continued) 1509063-06 B-112 (4.4-7.4')					Analyzed:	09/08/2015	By: BAG	
Unit: ug/L					Analytical Batch:	5I09017		
Chlorobenzene	<1.0	40.0	**41.4**	104	80-121	6	8	1.0
1,1-Dichloroethene	<1.0	40.0	**45.2**	113	74-134	4	11	1.0
Toluene	1.12	40.0	**44.2**	108	79-129	6	9	1.0
Trichloroethene	0.290	40.0	**40.2**	100	75-127	6	10	1.0
Surrogates:								
Dibromofluoromethane				*101*	*85-118*			
1,2-Dichloroethane-d4				*100*	*87-122*			
Toluene-d8				*100*	*85-113*			
4-Bromofluorobenzene				*101*	*82-110*			

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TRIMATRIX LABORATORIES

5560 Corporate Exchange Court SE
Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463
www.trimatrixlabs.com

Chain of Custody Record

COC No. 151249

Pg. 1 of ___

For Lab Use Only
Cart: —

VOA Rack/Tray: 326-BLUE
Receipt Log No.: 14-30
Project Chemist: 1509083
Work Order No.: ~~1508003~~

Client Name: TRC
Address: 1540 Eisenhower Place
City, State Zip: Ann Arbor MI 48108
Phone/Fax: 734 971 7080 734 971 9013
Email:

Project Name: T.P.C. (GSI)
Client Project No. / PO No.: ~~[illegible]~~ 220003.0001
Invoice To: ☑ Client ☐ Other (comments)
Contact/Report To: Stacy Metz

Analyses Requested

VOC 8260 D

Container Type (corresponds to Container Packing List): 1

Number of Containers Submitted

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix		Total	Sample Comments
01		01	1	B-110 (7.3-10.3')		9/1/15	1220		X	GW	†	2	
		02	2	~~Dup #01~~ DUP-01		9/1/15	—		X	GW	†	2	
		03	3	B-109 (7.4-10.4')		9/1/15	1040		X	GW	†	2	
		04	4	B-108 (5.6-8.6')		9/1/15	1120		X	GW	†	2	
		05	5	B-111 (3.3-6.3')		9/1/15	1425		X	GW	†	2	
		06	6	B-112 (4.4-7.4')		9/1/15	1410		X	GW	†	2	
02			7	B-112 MS/MSD (4.4-7.4')		9/1/15	1420		X	GW	†	3	
03		07	8	~~Trip Blank~~ TB-01					X	DI	†	1	
			9										
			10										

Sampled By (print): Javier Jasso
Sampler's Signature:
Company: TRC

How Shipped? Hand ___ Carrier ___
Tracking No.

Comments: P.O. 220003.0001

	Relinquished By	Date	Time	Received By	Date	Time
1		9/1/15	1600	R. Krumm	9/2/15	2:30
2		9/1/15	1600	Ray Johnson	9/2/15	1430
3	Ray Johnson	9/2/15	1730	J. Lodin	9/2/15	1730

WHITE COPY - REPORT YELLOW COPY - LABORATORY PINK COPY - FIELD

SAMPLE RECEIVING / LOG-IN CHECKLIST

1509063

TRIMATRIX LABORATORIES

Client: TRC | Work Order #: 1508
Receipt Record Page/Line #: 14-30 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): DN 9/2/15

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) ☐ See Additional Cooler Information Form

Cooler # Buffalo | Time 2503

Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	2.5	0	2.5
Sample 1:	5.4	0	5.4
Sample 2:	6.0	0	6.0
Sample 3:	6.4	0	6.4

3 Sample Average °C: 5.9

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By ____
☐	☑	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☑ TriMatrix COC ☐ Other ____

COC ID Numbers: 151249

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank OR average sample temperature, ≥6° C?
☐	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☐	☐	If "Yes", Project Chemist Approval Initials: ____
☑	☐	☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐	☐	Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐	☐	If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☑	☐	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 9/2/15	9/2/15	Yes / No

Attachment 2
Soil Gas Sample Data Table – Third Quarter 2015

Table 1
Summary of Chlorinated Volatile Organic Compounds at Soil Gas Sample Locations
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
MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
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
	5/20/2010 [2]	**52.4**	<4.4	**21.6**	**184**	<4.4	**52.1**	**1,690**	**2,800**	<4.4
	10/21/2010	**74.7**	<16.8	<16.8	**272**	**25.8**	**222**	**8,300**	**32,100**	<16.8
	12/9/2010	<709	<709	<709	<709	<709	<709	**6,440**	**17,800**	<709
	4/13/2011	**32.8**	**166**	**21.0**	**110**	**7.8**	**84.6**	**2,630**	**10,500**	<6.7
	6/27/2011	<180	<90	<180	<180	<180	**98.0**	**1,420**	**7,340**	<90
	9/28/2011	<100	<100	<100	**220**	<200	**150**	**4,300**	**19,000**	<100
	11/21/2011 [3]	--	--	--	--	--	--	--	--	--
	1/30/2012	**10**	<4.0	**6.2**	**17**	<8.0	<4.0	**610**	**700**	<4.0
	6/27/2012	**53**	<5.0	**13**	**170**	**19**	**190**	**4,700**	**23,000**	<5.0
	10/1/2012	**56**	<50	<50	**190**	<100	**310**	**5,100**	**16,000**	<50
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**10**	**1.9**	<1.0
	3/14/2013	**4.7**	<1.0	**4.7**	**6.7**	<2.0	<1.0	**300**	**190**	<1.0
	5/30/2013 [4]	<120	<24	<120	<120	<120	**49**	**1,400**	**3,700**	<19
	6/24/2013 [3]	--	--	--	--	--	--	--	--	--
	8/8/2013	**110**	<1.0	**30**	**440**	**45**	**2,200**	**12,000**	**110,000**	<1.0
	11/12/2013	**42**	<1.0	**13**	**160**	**15**	**950**	**6,000**	**51,000**	<1.0
	3/26/2014	<1.0	<1.0	<1.0	**1.2**	<2.0	**11**	**31**	**310**	<1.0
	5/21/2014	**1.0**	**1.6**	<1.0	**3.0**	<2.0	**73**	**180**	**1,500**	<1.0
	7/24/2014	<5.0	<5.0	<5.0	<5.0	<10	**140**	**28**	**890**	<5.0
	11/3/2014	<5.0	<5.0	<5.0	<5.0	<10	**18**	<5.0	**97**	<5.0
	4/1/2015	<1.0	<1.0	<1.0	**1.1**	<2.0	**1.7**	**160**	**150**	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**7.2**	**27**	**89**	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**11**	**5.7**	**100**	<1.0
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
	5/20/2010 [2]	**63.2**	<4.4	**31.0**	**245**	**22.6**	**256**	**2,120**	**3,770**	<4.4
	9/28/2011	<100	<100	<100	**270**	<200	**200**	**5,800**	**28,000**	<100
	11/21/2011	**22** [6]	<5.0	**9.9**	**48**	<10	**25**	**1,700**	**8,500**	<5.0
	1/30/2012	**15**	<4.0	**9.3**	**26**	<8.0	**4.0**	**920**	**1,000**	<4.0
SG-01 (DUP-02)	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**7.7**	**29**	**95**	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**9.3**	**5.8**	**100**	<1.0

Notes:

1) As recommended by USEPA in an email dated August 1, 2013, soil gas screening levels (SGSLs) are taken from the May 2013 Michigan Department of Environmental Quality (MDEQ) Final Guidance Document for the Vapor Intrusion Pathway.
2) 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.
3) Elevated concentrations of tracer detected. Analytical data for other analytes are presumed to be invalid (--).
4) Elevated detection limit due to siloxane contamination in sample.
5) Water in sample point prevented sample collection.
6) Quality control results are outside the established control limits, the result is approximate.
7) Analyte was evaluated for detection to the method detection limit.
8) Potential data quality issues were identified with tetrachloroethene, 1,1,1-trichloroethane, and tricholorethene concentrations reported in July 2014. Data may be biased high. Data for these compounds, in the absence of additional data confirming these low-level detections, should be considered suspect and should not, in isolation, be used to trigger further action
9) Sample port is screened in the low permeability zone. Available sample volume insufficient for analysis.
10) Elevated concentrations of tracer detected. Results and detection limits may be biased low.

Bold font denotes concentrations detected above laboratory reporting limits.

Denotes concentrations above one or more soil gas screening level

ppbv - parts per billion by volume
NS - No Sample

Table 1
Summary of Chlorinated Volatile Organic Compounds at Soil Gas Sample Locations
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
MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
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
	10/21/2010	<12.5	<12.5	<12.5	<12.5	<12.5	**532**	**328**	**1,610**	<12.5
	12/9/2010 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2011 [5]	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
	9/28/2011	<5.0	<5.0	<5.0	**6.1**	<10	**1,100**	**230**	**550**	<5.0
	11/21/2011	**2.3**	<1.0	<1.0	**2.6**	**2.5**	**400**	**120**	**310**	**1.1**
	1/30/2012	<1.0	<1.0	**2.1**	<1.0	<2.0	<1.0	**8.6**	**2.3**	<1.0
	6/27/2012	**18**	<1.0	**4.2**	**1,300**	**52**	**780**	**430**	**2,200**	**3.3**
	10/2/2012	**11**	<5.0	<5.0	**260**	**33**	**280**	**510**	**1,900**	<5.0
	11/27/2012	**4.6**	<1.0	**2.4**	**44**	**7.3**	**3.4**	**80**	**120**	<1.0
	3/26/2013	<2.0	<2.0	**3.4**	**46**	**4.6**	**10**	**32**	**100**	**2.1**
	5/30/2013 [6]	**7.3**	<2.0	**4.5**	**200**	**22**	**350**	**380**	**1,900**	<2.0
	8/9/2013	**17**	<1.0	**12**	**220**	**46**	**4,800**	**990**	**9,100**	<1.0
	11/13/2013	**7.4**	<1.0	**2.0**	**51**	**10**	**950**	**270**	**1,800**	<1.0
	3/26/2014 [3]	--	--	--	--	--	--	--	--	--
	4/16/2014	<1.0	<1.0	<1.0	**9.9**	**2.5**	**210**	**34**	**300**	<1.0
	5/21/2014	**7.6**	<1.0	**5.1**	**68**	**16**	**2,000**	**410**	**2,600**	<1.0
	7/24/2014	**31**	<10	<10	**120**	**47**	**5,400**	**1,300**	**5,600**	<10
	9/22/2014	**15**	<10	<10	**71**	**38**	**2,500**	**770**	**5,000**	<10
	11/5/2014	<10	<10	<10	**17**	<20	**1,800**	**310**	**2,800**	<10
	4/1/2015 [10]	<1.0	<1.0	**1.5**	**4.5**	**2.9**	**400**	**59**	**460**	<1.0
	6/18/2015	**6.3**	<1.0	**5.2**	**47**	**28**	**1,900**	**650**	**4,000**	<1.0
	9/14/2015	**13**	<1.0	**7.5**	**55**	**23**	**2,700**	**870**	**5,000**	<1.0

Notes:

1) As recommended by USEPA in an email dated August 1, 2013, soil gas screening levels (SGSLs) are taken from the May 2013 Michigan Department of Environmental Quality (MDEQ) Final Guidance Document for the Vapor Intrusion Pathway.
2) 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.
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Tecumseh, Michigan

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MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
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
	10/21/2010	**91.0**	<15.7	<15.7	**193**	**90.3**	<15.7	<15.7	<15.7	<15.7
	12/9/2010	**47.7**	<11.9	<11.9	**98.0**	**48.5**	<11.9	<11.9	<11.9	<11.9
	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	<0.57	<0.56	<0.57	<0.58
	6/27/2011	<0.36	<0.18	<0.37	<0.37	<0.37	**6.8**	**4.8**	**22.3**	<0.18
	9/28/2011	**3.0**	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	11/21/2011	**3.5**	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	**1.8**
	1/30/2012 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/27/2012	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	**12**	<2.0
	10/2/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2013 [3]	--	--	--	--	--	--	--	--	--
	4/15/2013 [3]	--	--	--	--	--	--	--	--	--
SG-03R (5-5.5')	5/30/2013	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	8/9/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/13/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/21/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**1.8**	<1.0	<1.0	<1.0
	9/22/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/5/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	4/1/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.7**	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**1.1**	**1.9**	**2.4**	<1.0

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MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
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Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-04 (5-5.5')	4/5/2010	<2.6	<1.3 [7]	<2.6	<2.6	<4.9	<2.6	<2.6	<2.6	<2.5
	9/23/2010	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
	12/9/2010	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78	<0.78
	3/31/2011	<1.6	<1.6	<1.6	<1.6	<1.6	**2.0**	<1.6	<1.6	<1.6
	6/7/2011	<1.0	<0.53	<1.1	<1.1	<1.1	<0.52	<1.0	<0.53	<0.54
	9/28/2011	<1.0	<1.0	<1.0	<1.0	<2.0	**1.7**	<1.0	<1.0	<1.0
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	**2.4**
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.0**	<1.0
	10/2/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/24/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	8/9/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**4.7**	<1.0
	11/13/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/21/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/24/2014 [8]	<1.0	<1.0	<1.0	<1.0	<2.0	**5.6**	<1.0	<1.0	<1.0
	11/5/2014	**6.8**	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	4/1/2015 [10]	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**3.0**	<1.0	<1.0

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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
	10/21/2010	<16.8	<16.8	<16.8	<16.8	<16.8	<16.8	**708**	**1,320**	<16.8
	12/9/2010	<15.7	<15.7	<15.7	<15.7	<15.7	<15.7	**357**	**538**	<15.7
	3/31/2011 [5]	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
	9/28/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.1**	**1.1**	<1.0
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	1/30/2012 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/26/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.1**	<1.0	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**220**	**380**	<1.0
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**54**	**22**	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/23/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**16**	**21**	<1.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**170**	**260**	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**150**	**250**	<1.0
	5/19/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.2**	**1.7**	<1.0
	7/22/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**1.3**	**5.0**	**14**	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**34**	**36**	<1.0
	3/30/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.8**	**2.5**	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.7**	**3.8**	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**18**	**14**	<1.0
SG-05 (DUP-01)	10/21/2010	<16.8	<16.8	<16.8	<16.8	<16.8	<16.8	**581**	**1,020**	<16.8
	12/9/2010	<211	<211	<211	<211	<211	<211	**772**	**849**	<211
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**190**	**370**	<1.0

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Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
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
	5/20/2010	<4.6	<4.6	<4.6	<4.6	<4.6	**9.5**	**6.0**	**104**	<4.6
	9/21/2010	<29.2	<29.2	<29.2	<29.2	<29.2	**62.2**	<29.2	**263**	<29.2
	12/9/2010	<3.9	<3.9	<3.9	**6.1**	<3.9	**4.3**	**7.4**	**64.9**	<3.9
	3/31/2011	**0.73**	<0.17	<0.35	<0.35	**1.3**	<0.17	**1.7**	**14.1**	<0.17
	6/7/2011	**0.88**	<0.18	<0.37	**5.6**	**2.5**	**7.5**	**2.5**	**50.2**	<0.18
	9/28/2011	**3.6**	<2.0	<2.0	**35**	**6.4**	**16**	**7.7**	**150**	<2.0
	11/21/2011	**2.2**	<1.0	<1.0	**9.2**	**2.6**	<1.0	**5.1**	**29**	**1.1**
	1/30/2012	**1.4**	<1.0	<1.0	**5.4**	<2.0	<1.0	**1.3**	**9.7**	<1.0
	6/27/2012	<1.0	<1.0	<1.0	**7.7**	<2.0	**9.1**	**3.4**	**68**	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**2.3** [6]	<1.0	**12** [6]	<1.0
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**2.1**	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
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	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**20**	<1.0	**10**	<1.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**8.9**	<1.0	**6.0**	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**1.7**	<1.0	**1.1**	<1.0
	5/19/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**5.0**	<1.0	**2.1**	<1.0
	7/22/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**59**	**7.9**	**59**	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**3.7**	<1.0	**1.7**	<1.0
	3/30/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**1.6**	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**2.3**	<1.0	**1.8**	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**2.7**	<1.0	**1.6**	<1.0

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Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
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
	5/20/2010	<5.0	<5.0	<5.0	<5.0	<5.0	**13.8**	**6.8**	**145**	<5.0
	9/21/2010	<69.6	<69.6	<69.6	<69.6	<69.6	**140**	<69.6	**403**	<69.6
	12/9/2010	<22.2	<22.2	<22.2	<22.2	<22.2	**24.4**	<22.2	**139**	<22.2
	3/31/2011	<0.34	<0.17	<0.35	<0.35	<0.35	**5.9**	**4.3**	**47.2** [6]	<0.17
	6/7/2011	<0.36	<0.18	<0.37	<0.37	<0.37	**23.6**	**4.4** [6]	**171** [6]	<0.18
	9/28/2011	<1.0	<1.0	<1.0	<1.0	<2.0	**76**	**16**	**260**	<1.0
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.7**	**3.1**	**1.5**
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**2.4**	<1.0
	6/26/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**67**	**9.0**	**250**	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**16**	**8.8**	**130**	<1.0
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**1.7**	**3.4**	**34**	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.4**	**13**	<1.0
	5/23/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**27**	**4.0**	**120**	<1.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**260**	**13**	**510**	<1.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**160**	**7.7**	**340**	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**41**	**2.5**	**79**	<1.0
	5/19/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**110**	**4.1**	**180**	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**210**	**11** [6]	**320**	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**180**	**7.0**	**330**	<1.0
	3/30/2015	<1.0	<1.0	<1.0	**1.3**	<2.0	**47**	**2.4**	**110**	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**140**	**6.1**	**250**	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**130**	**11**	**310**	<1.0
SG-07 (DUP-01)	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	**7.9**	**5.0**	**90.6** [6]	<0.58
	6/7/2011	<0.36	<0.18	<0.37	<0.37	<0.37	**28.4** [6]	**9.5** [6]	**97.2** [6]	<0.18
	6/26/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**66**	**9.3**	**250**	<1.0
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**1.5**	**3.1**	**33**	<1.0
	5/23/2013 [4]	<4,900	<970	<5,000	<5,000	<5,000	<580	<3,600	<730	<770
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**220**	**12**	**420**	<1.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**160**	**7.6**	**350**	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**42**	**2.6**	**82**	<1.0
	5/19/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**110**	**4.3**	**180**	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**190**	**8.6** [6]	**300**	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**180**	**6.8**	**320**	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**130**	**5.8**	**230**	<1.0
	3/30/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**230**	**12**	**400**	<1.0

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Bold font denotes concentrations detected above laboratory reporting limits.

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Table 1
Summary of Chlorinated Volatile Organic Compounds at Soil Gas Sample Locations
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
MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-07 (DUP-02)	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.4**	**12**	<1.0
SG-08 (6.5-7')	4/5/2010	<2.6	<1.3 [7]	<2.6	<2.6	<5.1	<2.6	<2.6	<2.6	<2.6
	9/23/2010	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**4.5**	**3.5**	<2.0
	12/9/2010 [5]	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
	6/27/2011	<0.34	<0.17	<0.35	<0.35	<0.35	<0.17	**0.97**	<0.18	<0.17
	9/28/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.9**	<1.0	<1.0
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**6.9**	**1.3**	**1.0**
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/29/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.8**	**2.0**	<1.0
	10/2/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.7**	<1.0	<1.0
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/24/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	8/9/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**5.4**	**8.6**	<1.0
	11/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.6**	**3.2**	<1.0
	4/16/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.2**	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.4**	**4.0**	<1.0
	7/24/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**2.2**	**4.0**	**5.2**	<1.0
	11/5/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**4.2**	**2.2** [6]	<1.0
	4/1/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.7**	**1.9**	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**6.3**	**4.7**	<1.0
SG-08 (DUP-02)	5/24/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	8/9/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**4.8**	**7.1**	<1.0
	11/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.5**	**3.7**	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.0**	**1.6**	<1.0
	7/24/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**1.8**	**3.9**	**5.2**	<1.0
	11/5/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**4.7**	**8.6** [6]	<1.0

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MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-09 (5.5-6')	4/5/2010 [3]	--	--	--	--	--	--	--	--	--
	5/20/2010	**10.6**	<4.4	<4.4	<4.4	<4.4	<4.4	**123**	**176**	<4.4
	9/23/2010	<23.4	<23.4	<23.4	<23.4	<23.4	<23.4	**142**	**436**	<23.4
	12/9/2010	<13.2	<13.2	<13.2	<13.2	<13.2	<13.2	**61.8**	**51.7**	<13.2
	3/31/2011	**4.3**	<0.17	<0.35	**1.3**	<0.35	<0.17	**52.5**	**13.9**	<0.17
	6/27/2011	**5.4**	<0.17	<0.35	**1.4**	<0.35	<0.17	**52.8**	**45.8**	<0.17
	9/28/2011	**1.7**	<1.0	<1.0	<1.0	<2.0	<1.0	**13**	**7.9**	<1.0
	11/21/2011	**3.8**	<1.0	<1.0	<1.0	<2.0	<1.0	**32**	**9.1**	<1.0
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**7.2**	**1.3**	<1.0
	6/29/2012	<1.0	<1.0	<1.0	**1.0**	<2.0	<1.0	**89**	**190**	<1.0
	10/2/2012	**1.0**	<1.0	<1.0	<1.0	<2.0	<1.0	**56**	**74**	<1.0
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**4.3**	**1.9**	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**5.4**	**4.0**	<1.0
	5/24/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	**18**	**27**	<2.0
	8/9/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**67**	**270**	<1.0
	11/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**35**	**170**	<1.0
	4/16/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**6.2**	**36**	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**15**	**73**	<1.0
	7/24/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**23**	**99**	<1.0
	11/5/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**11**	**67**	<1.0
	4/1/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**4.0**	**21**	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**10**	**69**	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**14**	**88**	<1.0
SG-09 (DUP-02)	6/29/2012	<1.0	<1.0	<1.0	**1.2**	<2.0	<1.0	**93**	**200**	<1.0

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Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-10 (5-5.5')	4/5/2010	<40.3 [7]	<40.3 [7]	<80.6	<80.6	<80.6	<40.3 [7]	<80.6	<40.3 [7]	<40.3 [7]
	9/21/2010	<4.4	<2.2 [7]	<4.4	<4.4	<4.4	<4.4	<4.4	**11.5**	<4.4
	12/9/2010	<8.7	<4.4 [7]	<8.7	<8.7	<8.7	<4.4 [7]	<8.7	<8.7	<8.7
	3/31/2011	<0.61	<0.61	<0.62	<0.62	<0.62	<0.61	<0.59	<0.60	<0.62
	6/27/2011 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.4**	**19**	<1.0
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**19**	**56**	<1.0
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/27/2012	<1.0	<1.0	<1.0	**4.8**	<2.0	**1.9**	**46**	**210**	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/29/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/23/2013 [3]	--	--	--	--	--	--	--	--	--
	6/24/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	8/8/2013	<1.0	<1.0	<1.0	**1.6**	<2.0	**29**	**6.9**	**53**	<1.0
	11/13/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/4/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**3.4**	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**5.5**	<1.0

Notes:

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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
MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-11 (5.5-6')	4/5/2010	<2.8	<1.4 [7]	<2.8	<2.8	<5.4	<2.8	<2.8	<2.8	<2.8
	9/23/2010	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4
	12/9/2010	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84	<0.84
	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	<0.57	<0.56	<0.57	<0.58
	6/7/2011	<0.39	<0.19	<0.40	<0.40	<0.40	**0.89**	**0.54**	**1.2**	<0.19
	9/28/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**6.8**	**18**	<1.0
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/29/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/23/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**1.2**	<1.0	**3.0**	<1.0
	11/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**1.3**	<1.0	<1.0	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/4/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
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 [7]	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
	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
	9/28/2011 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	1/30/2012 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2013 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/24/2013 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/14/2015 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS

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MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-12R (7-7.5')	6/26/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	10/3/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/28/2012 [9]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/26/2013 [9]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/24/2013 [9]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/9/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/13/2013	<1.0	<1.0	<1.0	**1.9**	<2.0	<1.0	<1.0	**5.6**	<1.0
	3/26/2014 [3]	--	--	--	--	--	--	--	--	--
	4/16/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/19/2014	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	7/22/2014 [3]	--	--	--	--	--	--	--	--	--
	12/5/2014 [10]	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.3**	<1.0
	9/15/2015 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
SG-13 (5.5-6')	4/5/2010	<2.5	<1.3 [7]	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
	5/20/2010	<4.5	<2.2 [7]	<4.5	<4.5	<4.5	<4.5	<4.5	**6.1**	<4.5
	9/23/2010	<1.5	<1.5	<1.5	**2.5**	**5.6**	<1.5	<1.5	<1.5	<1.5
	12/9/2010	<1.6	<1.6	<1.6	<1.6	**2.9**	<1.6	<1.6	<1.6	<1.6
	3/31/2011	<0.56	<0.56	<0.57	<0.57	<0.57	<0.57	<0.56	<0.57	<0.58
	6/7/2011	**1.5**	<0.19	<0.40	**4.8**	**10.8**	**0.77**	**0.81**	**1.6**	<0.19
	9/28/2011	**1.1**	<1.0	<1.0	**6.2**	**10**	<1.0	<1.0	<1.0	<1.0
	11/21/2011	**1.9**	<1.0	<1.0	**2.0**	**4.0**	<1.0	<1.0	<1.0	<1.0
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/26/2012	<1.0	<1.0	<1.0	**4.9**	**7.7**	<1.0	<1.0	<1.0	<1.0
	10/2/2012	<1.0	<1.0	<1.0	**3.4** [6]	**5.9** [6]	<1.0	<1.0	<1.0	<1.0
	11/28/2012	<1.0	<1.0	<1.0	**1.7**	**2.7**	<1.0	<1.0	<1.0	<1.0
	3/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/23/2013	<1.0	<1.0	<1.0	<1.0	**3.4**	<1.0	<1.0	<1.0	<1.0
	8/8/2013	<1.0	<1.0	<1.0	**1.3**	**8.8**	<1.0	<1.0	<1.0	<1.0
	11/14/2013	<1.0	<1.0	<1.0	<1.0	**4.5**	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/20/2014	<1.0	<1.0	<1.0	**1.3**	**4.0**	<1.0	<1.0	<1.0	<1.0
	7/23/2014	<1.0	<1.0	<1.0	**1.4**	**6.6**	<1.0	<1.0	<1.0	<1.0
	11/4/2014	<1.0	<1.0	<1.0	<1.0	**4.5** [6]	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	**2.5**	<1.0	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	**2.2**	**9.4**	<1.0	<1.0	<1.0	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	**2.8**	<1.0	<1.0	<1.0	<1.0

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MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-14 (6.5-7') [5]	4/5/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/20/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/21/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/9/2010	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/31/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/27/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/21/2011	NS	NS	NS	NS	NS	NS	NS	NS	NS
	1/30/2012	NS	NS	NS	NS	NS	NS	NS	NS	NS
SG-14R (6.5-7')	6/26/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.3**	<1.0
	10/3/2012 [9]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/28/2012 [9]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/14/2013	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/24/2013 [3]	--	--	--	--	--	--	--	--	--
	8/9/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.6**	<1.0
	11/13/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	4/16/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/19/2014	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	7/22/2014 [3]	--	--	--	--	--	--	--	--	--
	11/4/2014	<100	<100	<100	<100	<200	<100	<100	<100	<100
	4/1/2015 [10]	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0
SG-15 (11-11.5')	9/23/2010 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/15/2010 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	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
	9/28/2011 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**10**	**30**	<1.0
	1/30/2012 [5]	NS	NS	NS	NS	NS	NS	NS	NS	NS

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Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-15R (8.75-9.25')	6/26/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	10/3/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/24/2013 [4,7]	<1.6	<1.6	<1.9	<1.6	<1.2	<1.0	<1.0	<1.2	<1.8
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/13/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/23/2014 [8]	<1.0	<1.0	<1.0	<1.0	<2.0	**1.4**	<1.0	**8.5**	<1.0
	11/4/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
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
	12/9/2010	<15.7	<7.8 [7]	<15.7	<15.7	<15.7	<7.8 [7]	<15.7	<15.7	<7.8 [7]
	3/31/2011	<0.61	<0.61	<0.60	<0.60	<0.60	<0.61	<0.59	<0.60	<0.62
	6/7/2011	<1.1	<0.53	<1.1	<1.1	<1.1	<0.54	<1.1	**0.62**	<0.54
	9/28/2011	<1.0	<1.0	<1.0	**3.3**	<2.0	**7.4**	<1.0	**28**	<1.0
	11/21/2011	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	**1.1**
	1/30/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	10/2/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/23/2013 [4]	<4,900	<970	<5,000	<5,000	<5,000	<580	<3,600	<730	<770
	6/24/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**13**	<1.0
	11/13/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/19/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**1.3**	<1.0	**1.1**	<1.0
	11/4/2014	<1.0	<1.0	<1.0	**5.2**	**3.1** [6]	**11**	<1.0	**4.4**	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**1.2**	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0

Notes:

1) As recommended by USEPA in an email dated August 1, 2013, soil gas screening levels (SGSLs) are taken from the May 2013 Michigan Department of Environmental Quality (MDEQ) Final Guidance Document for the Vapor Intrusion Pathway.
2) 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.
3) Elevated concentrations of tracer detected. Analytical data for other analytes are presumed to be invalid (--).
4) Elevated detection limit due to siloxane contamination in sample.
5) Water in sample point prevented sample collection.
6) Quality control results are outside the established control limits, the result is approximate.
7) Analyte was evaluated for detection to the method detection limit.
8) Potential data quality issues were identified with tetrachloroethene, 1,1,1-trichloroethane, and tricholorethene concentrations reported in July 2014. Data may be biased high. Data for these compounds, in the absence of additional data confirming these low-level detections, should be considered suspect and should not, in isolation, be used to trigger further action
9) Sample port is screened in the low permeability zone. Available sample volume insufficient for analysis.
10) Elevated concentrations of tracer detected. Results and detection limits may be biased low.

Bold font denotes concentrations detected above laboratory reporting limits.

Denotes concentrations above one or more soil gas screening level

ppbv - parts per billion by volume
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Table 1
Summary of Chlorinated Volatile Organic Compounds at Soil Gas Sample Locations
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
MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-16 (DUP-02)	10/2/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/24/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
SG-17 (8-8.5')	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**1.8**	**330**	**5.7**	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**250**	<1.0	<1.0
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**42**	<1.0	<1.0
	3/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**42**	<1.0	<1.0
	5/23/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**83**	<1.0	<1.0
	8/8/2013	<2.0	<2.0	<2.0	<2.0	<4.0	**6.0**	**550**	<2.0	<2.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**5.1**	**300**	**6.2**	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**81**	<1.0	<1.0
	5/19/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**1.8**	**120**	<1.0	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**4.6**	**330**	<1.0	<1.0
	11/4/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**2.4**	**370**	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**71**	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**3.5**	**300**	<1.0	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**4.6**	**470**	<1.0	<1.0
SG-18 (8-8.5')	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.1**	**2.3**	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/29/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/23/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**2.1**	<1.0	**6.4**	<1.0
	11/13/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**2.1**	<1.0	**1.9**	<1.0
	11/4/2014	<1.0	<1.0	<1.0	**2.8**	**6.1** [6]	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0

Notes:

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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
MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-19 (8-8.5')	6/26/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	10/2/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/24/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/23/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	12/4/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	<1.0	**3.0**	<1.0	<1.0	<1.0	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
SG-20 (8-8.5')	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	**5.4**	**1.5**	**17**	<1.0
	10/2/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.9**	<1.0
	11/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.3**	<1.0
	5/24/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	**3.6**	<2.0	<2.0	<2.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**3.1**	**1.0**	<1.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	**13**	**1.4**	**23**	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**2.9**	<1.0	**5.3**	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**7.8**	<1.0	**12**	<1.0
	7/24/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/5/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**12**	**1.5**	**21**	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**3.4**	<1.0	**7.1**	<1.0
	6/18/2015	<5.0	<5.0	<5.0	<5.0	<10	**15**	<5.0	**25**	<5.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**26**	**2.2**	**36**	<1.0
SG-20 (DUP-02)	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**2.7**	<1.0	**5.8**	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**4.1**	<1.0	**7.1**	<1.0

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MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-21 (8-8.5')	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.1**	**2.3**	<1.0
	3/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/24/2013 [4]	<120	<24	<120	<120	<120	<15	<91	<18	<19
	6/24/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	4/16/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/20/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/24/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/5/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/31/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	9/14/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
SG-21 (DUP-01)	3/14/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
SG-21 (DUP-02)	11/29/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
SG-22 (6-6.5')	10/2/2014	**120**	<20	<20	<20	<40	**230**	**7,000**	**6,200**	<20
	11/3/2014	**81**	<20	<20	<20	<40	**160**	**5,100**	**4,500**	<20
	3/30/2015	**63**	<20	<20	<20	<40	**100**	**2,800**	**2,300**	<20
	6/18/2015	**200**	<10	<10	**36**	<20	**330**	**6,100**	**6,300**	<10
	9/15/2015	**140**	<10	<10	**21**	<20	**470**	**6,900**	**6,900**	<10
SG-23 (5-5.5')	10/2/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**2.3**	<1.0	<1.0	<1.0
	3/30/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**4.1**	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
SG-23 (DUP-01)	10/2/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
SG-24 (5-5.5')	10/2/2014	<1.0	<1.0	<1.0	<1.0	<2.0	**3.2**	<1.0	<1.0	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**3.3**	<1.0
	3/30/2015 [10]	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**2.0**	**2.1**	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**1.3**	<1.0	<1.0	<1.0

Notes:

1) As recommended by USEPA in an email dated August 1, 2013, soil gas screening levels (SGSLs) are taken from the May 2013 Michigan Department of Environmental Quality (MDEQ) Final Guidance Document for the Vapor Intrusion Pathway.
2) 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.
3) Elevated concentrations of tracer detected. Analytical data for other analytes are presumed to be invalid (--).
4) Elevated detection limit due to siloxane contamination in sample.
5) Water in sample point prevented sample collection.
6) Quality control results are outside the established control limits, the result is approximate.
7) Analyte was evaluated for detection to the method detection limit.
8) Potential data quality issues were identified with tetrachloroethene, 1,1,1-trichloroethane, and tricholorethene concentrations reported in July 2014. Data may be biased high. Data for these compounds, in the absence of additional data confirming these low-level detections, should be considered suspect and should not, in isolation, be used to trigger further action
9) Sample port is screened in the low permeability zone. Available sample volume insufficient for analysis.
10) Elevated concentrations of tracer detected. Results and detection limits may be biased low.

Bold font denotes concentrations detected above laboratory reporting limits.

Denotes concentrations above one or more soil gas screening level

ppbv - parts per billion by volume
NS - No Sample

Table 1
Summary of Chlorinated Volatile Organic Compounds at Soil Gas Sample Locations
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
MDEQ Residential Sub-Slab SGSL [1]		4,100	8.2	1,700	58	580	170	36,000	12	21
MDEQ Residential Deep SGSL [1]		41,000	82	17,000	580	5,800	1,700	360,000	120	210
MDEQ Non-Residential Sub-Slab SGSL [1]		69,000	160	28,000	980	9,800	3,300	610,000	210	1,500
MDEQ Non-Residential Deep SGSL [1]		690,000	1,600	280,000	9,800	98,000	33,000	6,100,000	2,100	15,000
Units		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv
SG-25 (5-5.5')	10/2/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**210**	**58**	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**140**	**34**	<1.0
	3/30/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**8.5**	**4.9**	<1.0
	6/18/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**84**	**20**	<1.0
	9/15/2015	<1.0	<1.0	<1.0	<1.0	<2.0	**1.9**	**120**	**26**	<1.0
MHC-01 (0.5-1.0')	3/30/2015	**2.2**	<1.0	<1.0	<1.0	<2.0	<1.0	**96**	**44**	<1.0
	6/18/2015	**8.7**	<1.0	<1.0	<1.0	<2.0	**8.6**	**450**	**360**	<1.0
	9/15/2015	**3.2**	<1.0	<1.0	<1.0	<2.0	**2.5**	**310**	**190**	<1.0
TVP-02s (10-10.5')	6/27/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	**1.2**	**8.8**	<1.0
	10/1/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	**1.2**	<1.0
	11/28/2012	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/18/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/23/2013 [4]	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0
	8/8/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/12/2013	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/26/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	5/19/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	7/23/2014 [8]	<1.0	<1.0	<1.0	<1.0	<2.0	**18**	**2.9**	**20**	<1.0
	11/3/2014	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	3/30/2015	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	6/17/2015	<1.0	<1.0	<1.0	**1.4**	<2.0	<1.0	<1.0	**11**	<1.0

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