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Ann Arbor, MI 48108

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June 18, 2012

Ms. Michelle Mullin
Project Manager
USEPA, Region 5
77 West Jackson Boulevard
LU-95
Chicago, IL 60604-3590

Subject: **Isoconcentration Maps and Supporting Information for the Former Tecumseh Products Company Site in Tecumseh, Michigan (MID 005-049-440)**

Dear Ms. Mullin:

On March 5 through March 6, 2012, Tecumseh Products Company (TPC) met with the U.S. Environmental Protection Agency (USEPA) to discuss current site conditions and work to be undertaken pursuant to the Administrative Order on Consent. During that meeting, TPC agreed to provide USEPA with a number of items including isoconcentration maps for the primary constituents of concern in groundwater.

Isoconcentration maps for the four most ubiquitous compounds in groundwater – trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE), vinyl chloride, and 1,1,1-trichloroethene (1,1,1-TCA) – are included as Figures 1 thru 4 respectively in Attachment 1. These figures are intended to depict the site-wide concentration trends. Localized areas with lower concentrations due to increased degradation, *i.e.*, the permeable reactive barrier, may not be fully represented on these figures. On each figure groundwater concentration data is posted next to the associated sample location to maximize the utility of the isoconcentration maps. Investigation locations with no groundwater concentration data for the specified constituent are designated with "NS" (no sample) in place of groundwater concentration data. Groundwater and surface water concentration data are also provided in the attached tables (Attachment 2). These tables also indicate the screen interval over which the sample was collected and the associated depth to groundwater/depth to the top of the confined aquifer. A complete set of soil boring logs for investigation activities conducted through April 2012 are also provided to facilitate USEPA's review of these figures.

As communicated via email to USEPA on June 8th, TPC will provide USEPA with a proposed source area investigation strategy next week. We would like to discuss this strategy with USEPA during the week of June 25, 2012.

If you have any questions regarding these isoconcentration maps or the supporting information, please contact me at (734) 585-7813, or gcrockford@trcsolutions.com.

Sincerely,

TRC Environmental Corporation

Graham Crockford, C.P.G.
Project Manager

Attachment 1 – Isoconcentration Maps
Attachment 2 – Tabulated Analytical Data
Attachment 3 – Soil Boring Logs and Well Construction Forms

cc: Susan Perdomo, USEPA
David Petrovski, USEPA
Roger Jackson, Tecumseh Products Company
Jason Smith, Tecumseh Products Company
Douglas McClure, Conlin, McKenney & Philbrick, PC
Stacy Metz, TRC Environmental Corporation
Central Files

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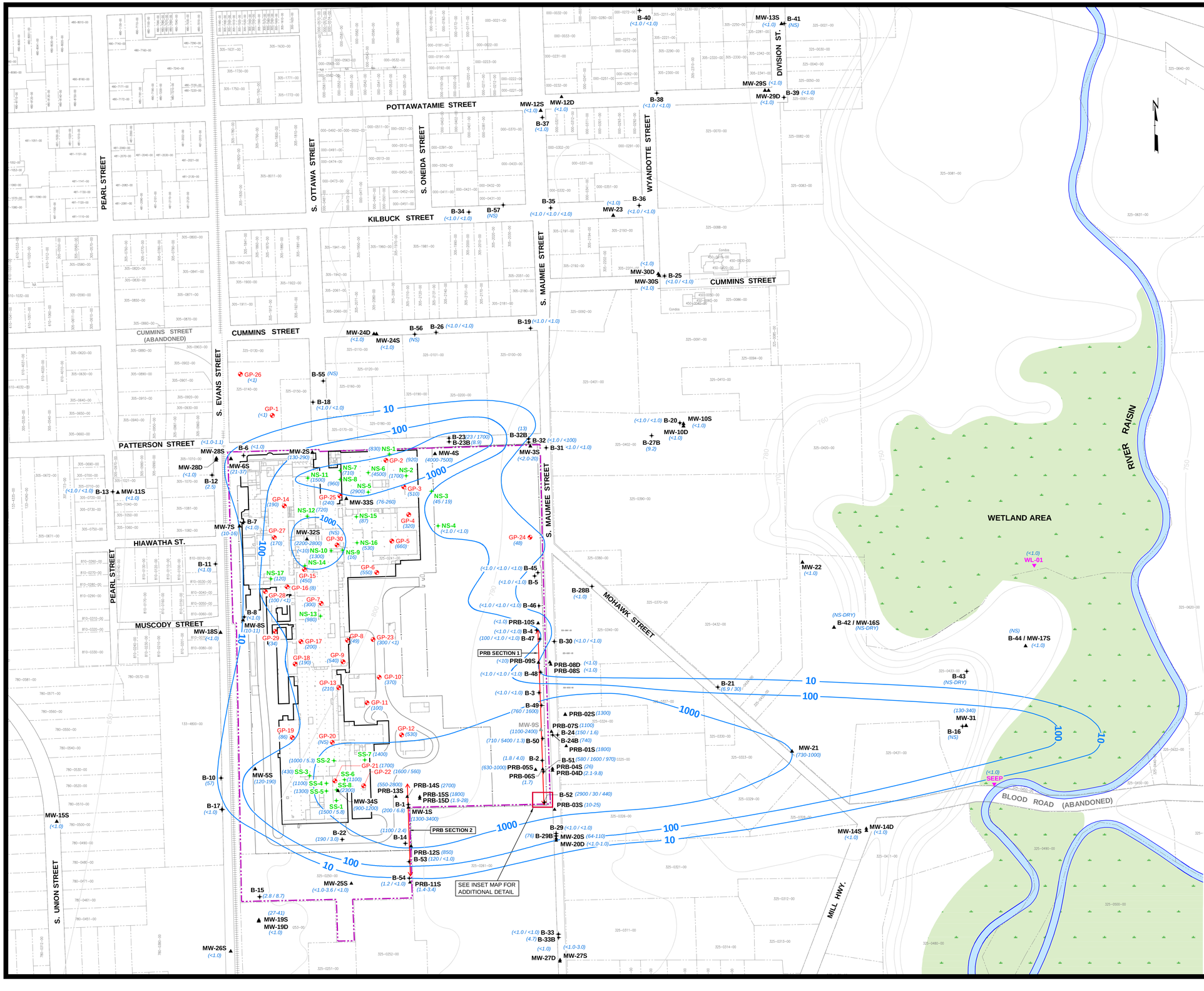
Attachment 1

Isoconcentration Maps



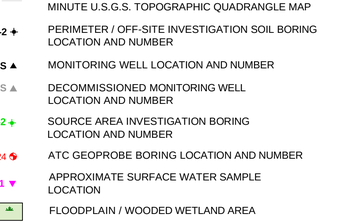
LEGEND

- 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
- GP-24 — ATC GEOPROBE BORING LOCATION AND NUMBER
- WL-01 — APPROXIMATE SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- 100 — APPROXIMATE TRICHLOROETHENE ISOCONCENTRATION LINE
- (13) — TRICHLOROETHENE CONCENTRATION IN ug/L (SEE NOTES 3 AND 4)
- (76-260) — TRICHLOROETHENE CONCENTRATION RANGE IN ug/L (SEE NOTES 3 AND 4)
- (45 / 19) — TRICHLOROETHENE CONCENTRATION IN ug/L WHERE SAMPLES WERE COLLECTED AT MULTIPLE DEPTHS. CONCENTRATIONS ARE LISTED IN ORDER OF INCREASING DEPTH (SEE NOTE 3)
- (NS) — NO SAMPLE COLLECTED FOR TRICHLOROETHENE ANALYSIS

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.).
4. FOR IN BARRIER AND DOWN GRADIENT SHALLOW PERMEABLE REACTIVE BARRIER MONITORING WELLS, (PRB-XXS) ONLY THE CONCENTRATION FROM THE MOST RECENT SAMPLE EVENT IS DISPLAYED.

INSET MAP



0 200 400 600 800
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APPD
3				
2				
1				

PROJECT: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: GROUNDWATER ISOCONCENTRATION MAP
TRICHLOROETHENE
MARCH 2009 - APRIL 2012

DRAWN BY:	DGS	SCALE: AS INDICATED	PROJ NO. 004311.0001.02
CHECKED BY:	SEM		FILE NO. 004311.0001.02.02.dwg
APPROVED BY:	GC	DATE PRINTED:	FIGURE 1
DATE:	JUNE 2012		

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US EPA ARCHIVE DOCUMENT

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Layout: Layout1

POTTAWATAMIE STREET
PEARL STREET
S. OTTAWA STREET
S. ONEIDA STREET
KILBUCK STREET
WYANDOTTE STREET
DIVISION ST.
S. MAUMEE STREET
CUMMINS STREET
CUMMINS STREET (ABANDONED)
S. EVANS STREET
PATTERSON STREET
HIAWATHA ST.
MUSCODY STREET
S. UNION STREET
MOHAWK STREET
MILL HWY.
BLOOD ROAD (ABANDONED)
RAISIN RIVER
WETLAND AREA
SEEP
PRB SECTION 1
PRB SECTION 2
SEE INSET MAP FOR ADDITIONAL DETAIL

B-40 (<1.0 / <1.0)
MW-13S (<1.0)
B-41 (NS)
MW-29S (<1.0-1.7)
MW-29D (<1.0)
B-39 (<1.0)
B-38 (<1.0 / <1.0)
MW-12S (<1.0)
MW-12D (<1.0)
B-37 (<1.0)
B-34 (<1.0 / <1.0)
B-57 (NS)
B-35 (<1.0 / 69 / <1.0)
MW-23 (<1.0)
B-36 (<1.0 / <1.0)
B-30D (<1.0)
MW-30S (<1.0)
B-25 (<1.0 / <1.0)
B-19 (<1.0 / <1.0)
MW-24D (<1.0)
MW-24S (<1.0)
B-56 (NS)
B-26 (3.2 / 7.3)
GP-26 (<1)
B-55 (NS)
B-18 (2.3 / 1.4)
GP-1 (<1)
B-6 (<1.0)
MW-2S (<2.0-4.1)
MW-28S (<1.0)
MW-6S (<1.0)
MW-28D (<1.0)
B-12 (<1.0)
B-13 (<1.0 / <1.0)
MW-11S (<1.0)
B-7 (<1.0)
MW-7S (<1.0)
GP-14 (<1)
GP-27 (<1)
MW-32S (140-270)
B-8 (<1.0)
MW-8S (<1.0)
GP-28 (<1 / <1)
GP-29 (<1)
MW-18S (<1.0)
GP-16 (3)
GP-7 (4)
NS-13 (71)
GP-17 (<1)
GP-18 (1)
GP-8 (160)
GP-23 (430 / <1)
GP-9 (9)
GP-10 (36)
GP-13 (1)
GP-11 (15)
GP-19 (<1)
GP-12 (7)
GP-20 (NS)
GP-21 (<20)
GP-22 (160 / 81)
SS-7 (<100)
SS-2 (<100 / <1.0)
SS-3 (<50)
SS-4 (<100)
SS-5 (<100)
SS-6 (<200)
SS-8 (<100)
SS-1 (<200 / 9.9)
MW-5S (<1.0-<5.0)
B-10 (<1.0)
B-17 (<1.0)
MW-15S (<1.0)
MW-34S (<10-<20)
B-22 (<20 / 13)
B-14 (<100 / <1.0)
MW-25S (<1.0-8.8 / 37)
B-15 (<1.0 / <1.0)
MW-19S (<1.0)
MW-19D (<1.0)
MW-26S (<1.0)
B-53 (<1.0 / <1.0)
B-54 (<1.0 / <1.0)
PRB-11S (<1.0)
PRB-12S (<10)
MW-1S (<10-38)
B-1 (120 / <1.0)
PRB-13S (12-25)
PRB-14S (29)
PRB-15S (1700)
PRB-15D (1.1-6.9)
B-52 (520 / 71 / 140)
B-23 (<2.0 / 5500)
B-23B (<1.0)
MW-4S (1600-2900)
B-32 (3.4)
B-32B (13 / 1200)
B-31 (<1.0 / <1.0)
MW-3S (240-2200)
NS-1 (260)
GP-2 (210)
NS-6 (220)
NS-2 (590)
NS-7 (34)
NS-11 (13)
NS-8 (100)
NS-5 (<200)
GP-25 (170)
MW-33S (13-22)
GP-3 (760)
NS-3 (23 / 9.8)
NS-12 (330)
NS-15 (1300)
GP-4 (240)
NS-4 (11 / 5.9)
NS-9 (110)
NS-10 (380)
NS-16 (150)
GP-30 (NS)
GP-5 (510)
NS-14 (120)
GP-15 (120)
GP-6 (120)
NS-17 (2.2)
B-45 (<1.0 / <1.0 / <1.0)
B-5 (<1.0 / <1.0)
B-46 (8.2 / <1.0 / <1.0)
PRB-10S (11-42)
B-4 (<1.0 / <1.0)
B-47 (73 / <1.0 / <1.0)
PRB-09S (<10)
B-48 (34 / 110 / <1.0)
B-3 (<1.0 / <1.0)
B-49 (33 / 31)
PRB-07S (<10-<100)
B-50 (<5.0 / <50 / <1.0)
B-2 (<1.0 / <1.0)
PRB-05S (<5.0-21)
PRB-06S (35)
B-28B (<1.0)
B-30 (36 / <1.0)
PRB-08D (<1.0)
PRB-08S (18)
PRB-02S (1800)
B-24 (<5.0 / <1.0)
B-24B (<20)
PRB-01S (230)
B-51 (13 / 87 / 23)
PRB-04S (2400)
PRB-04D (<1.0-2.5)
PRB-03S (<2.0-<10)
B-29 (6.2)
B-29B (<1.0 / <1.0)
MW-20S (1.9-12)
MW-20D (85-200)
B-33 (<1.0 / <1.0)
B-33B (<1.0 / <1.0)
MW-27D (<1.0)
MW-27S (<1.0)
B-21 (3.6 / 13)
MW-22 (<1.0)
B-42 / MW-16S (NS-DRY)
B-44 / MW-17S (NS) (<1.0)
B-43 (NS-DRY)
MW-31 (14-40)
B-16 (NS)
MW-21 (59-89)
B-20 (<1.0 / <1.0)
MW-10S (<1.0)
MW-10D (<1.0)
B-27B (<1.0)
MW-14S (<1.0)
MW-14D (<1.0)
WL-01 (<1.0)
MW-9S

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
- GP-24 ATC GEOPROBE BORING LOCATION AND NUMBER
- WL-01 ▼ APPROXIMATE SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- x—x— FENCE LINE
- 100 — APPROXIMATE cis-1,2-DICHLOROETHENE ISOCONCENTRATION LINE
- (36) cis-1,2-DICHLOROETHENE CONCENTRATION IN ug/L (SEE NOTES 3 AND 4)
- (13-22) cis-1,2-DICHLOROETHENE CONCENTRATION RANGE IN ug/L (SEE NOTES 3 AND 4)
- (33 / 31) cis-1,2-DICHLOROETHENE CONCENTRATION IN ug/L WHERE SAMPLES WERE COLLECTED AT MULTIPLE DEPTHS. CONCENTRATIONS ARE LISTED IN ORDER OF INCREASING DEPTH (SEE NOTE 3)
- (NS) NO SAMPLE COLLECTED FOR cis-1,2-DICHLOROETHENE ANALYSIS

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.)
4. FOR IN BARRIER AND DOWNGRADIENT SHALLOW PERMEABLE REACTIVE BARRIER MONITORING WELLS (PRB-XXS), ONLY THE CONCENTRATION FROM THE MOST RECENT SAMPLE EVENT IS DISPLAYED.

INSET MAP

B-62 (NS), B-58 (NS), B-67 (NS), B-66 (NS), B-64 (NS), B-63 (NS), B-61 (NS), B-52 (520 / 71 / 140), B-59 (NS), B-65 (NS), B-60 (NS)

APPROXIMATE SCALE IN FEET
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0 200 400 600 800
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APPD
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2				
1				

PROJECT: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: GROUNDWATER ISOCONCENTRATION MAP
cis-1,2-DICHLOROETHENE
MARCH 2009 - APRIL 2012

DRAWN BY:	DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0001.02
CHECKED BY:	SEM		FILE NO. 004311.0001.02.04.dwg
APPROVED BY:	GC	DATE PRINTED:	FIGURE 2
DATE:	JUNE 2012		

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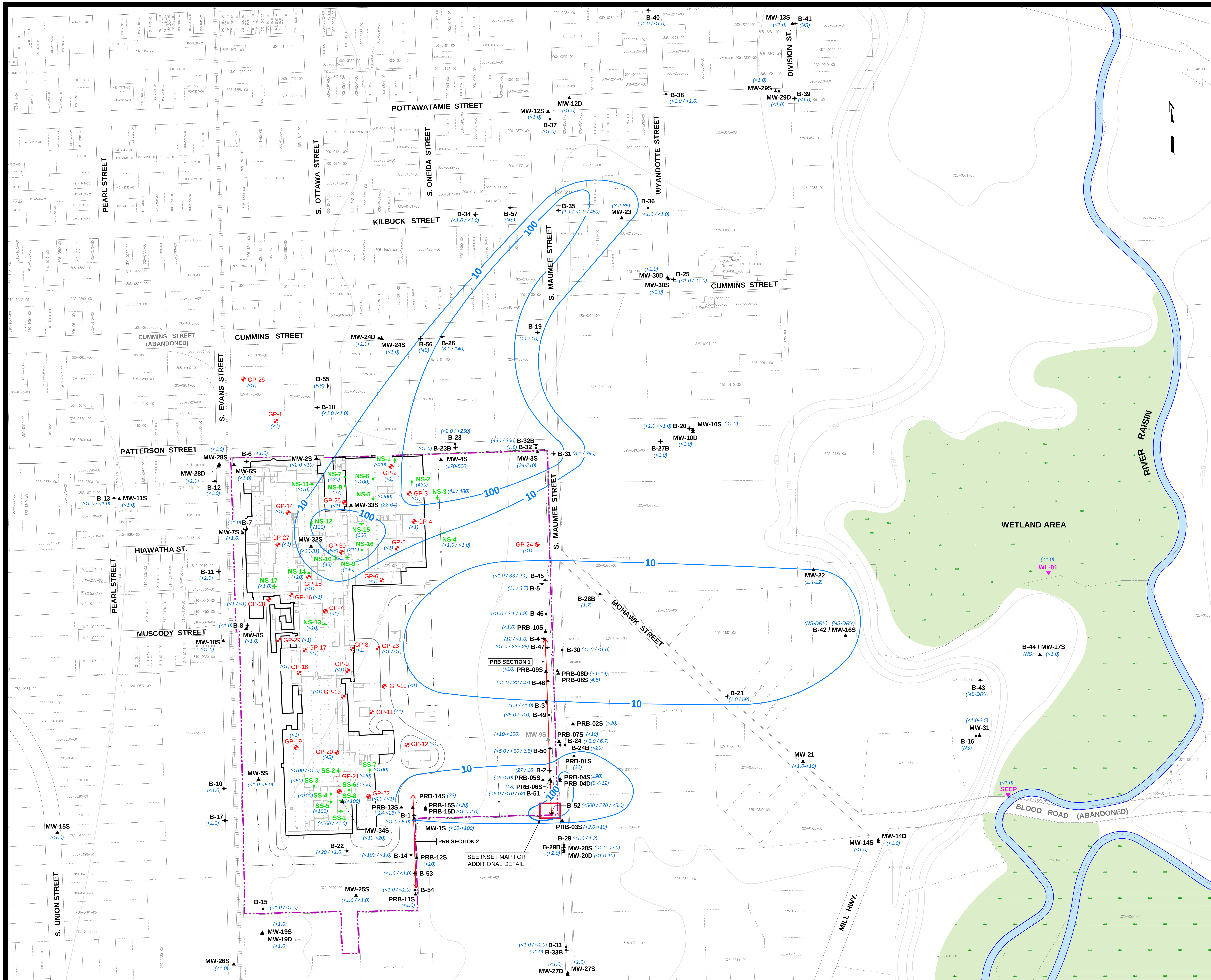
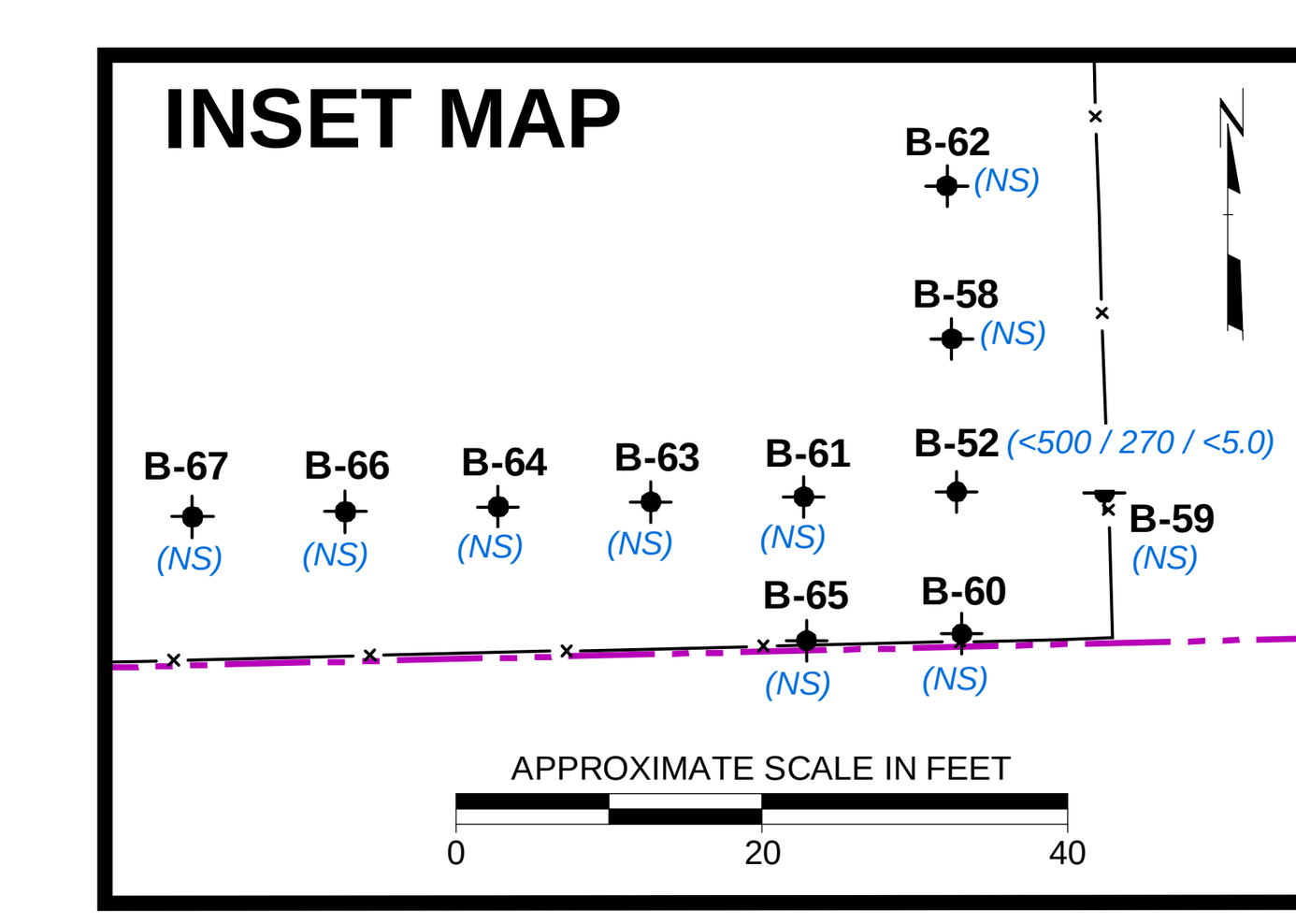


LEGEND

	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
GP-24	ATC GEOPROBE BORING LOCATION AND NUMBER
WL-01	APPROXIMATE SURFACE WATER SAMPLE LOCATION
	FLOODPLAIN / WOODED WETLAND AREA
	PRB LOCATION
	FENCE LINE
100	VINYL CHLORIDE ISOCONCENTRATION LINES
(660)	VINYL CHLORIDE CONCENTRATION IN ug/L (SEE NOTES 3 AND 4)
(34-210)	VINYL CHLORIDE CONCENTRATION RANGE IN ug/L (SEE NOTES 3 AND 4)
(11 / 3.7)	VINYL CHLORIDE CONCENTRATION IN ug/L WHERE SAMPLES WERE COLLECTED AT MULTIPLE DEPTHS. CONCENTRATIONS ARE LISTED IN ORDER OF INCREASING DEPTH (SEE NOTE 3)
(NS)	NO SAMPLE COLLECTED FOR VINYL CHLORIDE ANALYSIS

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 SAMPLING INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.).
4. FOR IN BARRIER AND DOWNGRADIENT SHALLOW PERMEABLE REACTIVE BARRIER MONITORING WELLS (PRB-XXS), ONLY THE CONCENTRATION FROM THE MOST RECENT SAMPLE EVENT IS DISPLAYED.



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

TITLE: **GROUNDWATER ISOCONCENTRATION MAP VINYL CHLORIDE MARCH 2009 - APRIL 2012**

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CHECKED BY: SEM		FILE NO. 004311.0001.02.06.dwg	
APPROVED BY: GC	DATE PRINTED:	FIGURE 3	
DATE: JUNE 2012			

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PLOT DATA
Drawing Name: J:_TRC\Tecumseh Products\Tecumseh MI\004311\0001\02\EI-Groundwater\004311.0001.02.06.dwg
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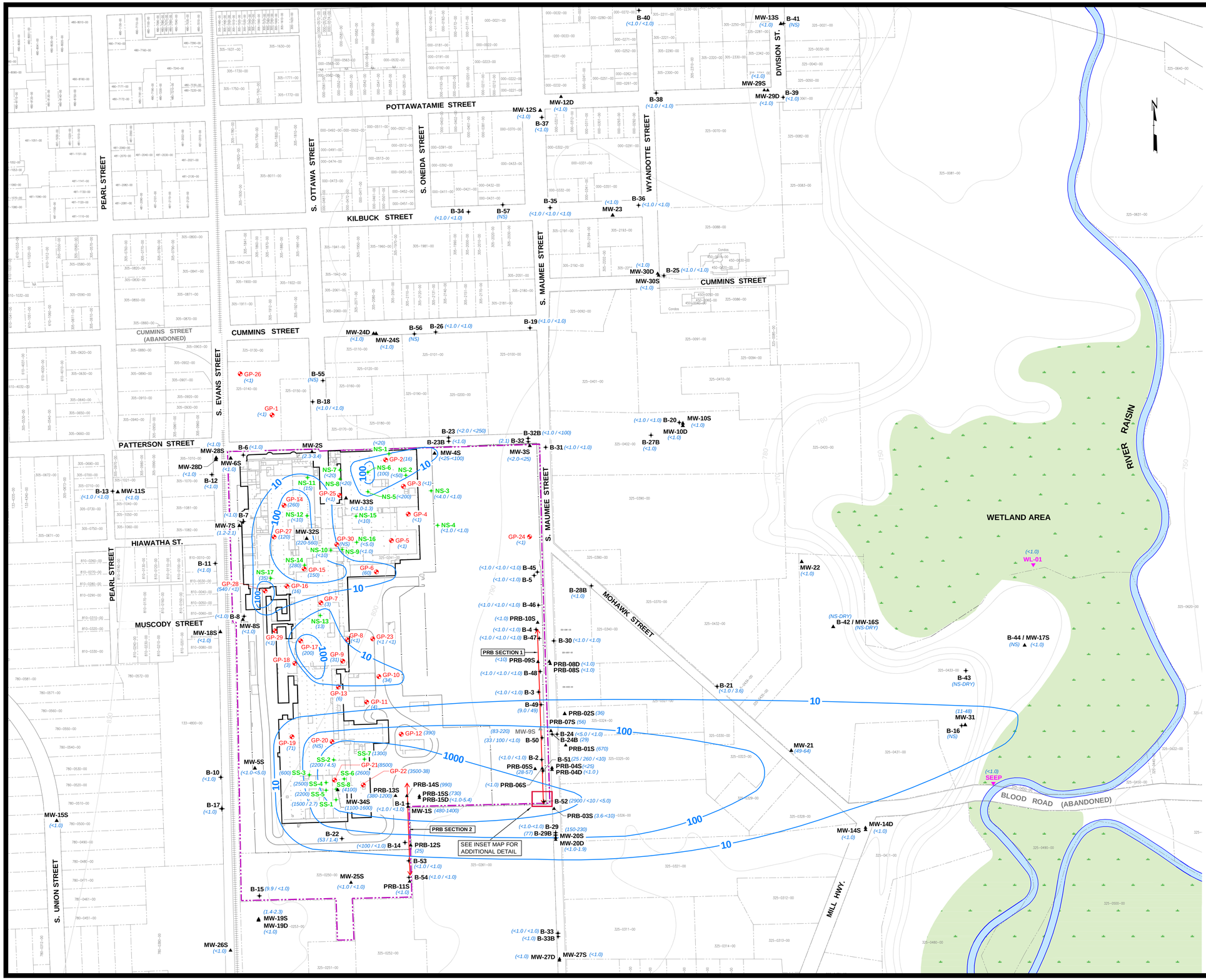


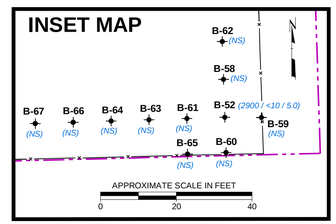
LEGEND

- 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
- GP-24 — ATC GEOPROBE BORING LOCATION AND NUMBER
- WL-01 ▼ — APPROXIMATE SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- 100 — APPROXIMATE 1,1,1-TRICHLOROETHANE ISOCONCENTRATION LINES)
- (390) — 1,1,1-TRICHLOROETHANE CONCENTRATION IN ug/L (SEE NOTES 3 AND 4)
- (220-560) — 1,1,1-TRICHLOROETHANE CONCENTRATION RANGE IN ug/L (SEE NOTES 3 AND 4)
- (<1.0 / 8.6) — 1,1,1-TRICHLOROETHANE CONCENTRATION IN ug/L WHERE SAMPLES WERE COLLECTED AT MULTIPLE DEPTHS. CONCENTRATIONS ARE LISTED IN ORDER OF INCREASING DEPTH (SEE NOTE 3)
- (NS) — NO SAMPLE COLLECTED FOR 1,1,1-TRICHLOROETHANE ANALYSIS

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 SAMPLING INFORMATION (SAMPLE COLLECTION DATE, SAMPLE DEPTH, ETC.).
4. FOR IN BARRIER AND DOWNGRADIENT SHALLOW PERMEABLE REACTIVE BARRIER MONITORING WELLS (PRB-XXS), ONLY THE CONCENTRATION FROM THE MOST RECENT SAMPLE EVENT IS DISPLAYED.

INSET MAP



0 200 400 600 800
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APPD
3				
2				
1				

PROJECT: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: GROUNDWATER ISOCONCENTRATION MAP
1,1,1-TRICHLOROETHANE
MARCH 2009 - APRIL 2012

DRAWN BY:	DGS	SCALE: AS INDICATED	PROJ.NO. 004311.0001.02
CHECKED BY:	SEM		FILE NO. 004311.0001.02.07.dwg
APPROVED BY:	GC	DATE PRINTED:	FIGURE 4
DATE:	JUNE 2012		

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Fax: 734.971.9022

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PLOT DATA
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Attached Images: FIGGW.tiff
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Dwg Size: 173 kb
Plot Date: 5 Jul 2012
Plot Time: 1:11 PM

US EPA ARCHIVE DOCUMENT

Attachment 2

Tabulated Analytical Data

US EPA ARCHIVE DOCUMENT

Table 1
Summary of Detected Volatile Organic Compounds in Groundwater
Groundwater Stability Monitoring Well Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		2-Butanone	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-01s (16-21') Depth to Groundwater 16.4 - 18.9'	3/13/2009	<100	<100	<20	<20	<20	<20	<20	**750**	**2,700**	<20	<20
	4/20/2009	NA	<500	<100	<100	<100	<100	<100	**1,100**	**2,200**	NA	<100
	12/9/2009	<100	<100	<20	<20	<20	<20	<20	**1,000**	**3,400**	<20	<20
	3/17/2010	<100	<100	<20	<20	<20	<20	<20	**1,400**	**2,500**	<20	<20
	5/18/2010	<100	<100	<20	<20	<20	<20	<20	**1,000**	**2,700**	<20	<20
	9/10/2010	<100	<100	<20	<20	<20	<20	<20	**750**	**2,400**	<20	<20
	12/28/2010	<100	<100	<20	<20	<20	<20	<20	**1,100**	**2,500**	<20	<20
	2/25/2011	<50	<50	<10	<10	<10	<10	<10	**560**	**1,300**	<10	<10
	5/11/2011[3]	<50	<50	<10	<10	<10	<10	<10	**860**	**1,900**	<10	<10
	7/28/2011	<100	<100	<20	<20	<20	<20	<20	**500**	**1,900**	<20	<20
	10/6/2011	<100	<100	<20	<20	<20	<20	<20	**540**	**2,000**	<20	<20
	1/9/2012	<100	<100	<20	<20	**31**	<20	<20	**530**	**2,000**	<20	<20
	4/4/2012	<100	<100	<20	<20	**38**	<20	<20	**480**	**1,900**	<20	<20
DUP-01 (MW-01s)	3/13/2009	<20	<20	<20	<20	<20	<20	<20	**720**	**2,700**	<20	<20
MW-02s (23-28') Depth to Groundwater 21.8 - 24.3'	3/13/2009	<10	<10	<2.0	<2.0	**2.4**	<2.0	**2.2**	**2.5**	**280**	<2.0	<2.0
	4/20/2009	NA	<50	<10	<10	<10	<10	<10	<10	**130**	NA	<10
	12/9/2009	<10	<10	<2.0	<2.0	**3.7**	<2.0	**2.7**	**2.9**	**250**	<2.0	<2.0
	3/17/2010	**13**	<10	<2.0	<2.0	**4.1**	<2.0	**2.3**	**3.1**	**290**	<2.0	<2.0
	5/18/2010	<10	<10	<2.0	<2.0	**2.3**	<2.0	**2.4**	**2.6**	**210**	<2.0	<2.0
	9/10/2010	<10	<10	<2.0	<2.0	**2.3**	<2.0	**2.3**	**2.3**	**220**	<2.0	<2.0
	12/22/2010	<10	<10	<2.0	<2.0	**2.4**	<2.0	**2.3**	**3.1**	**240**	<2.0	<2.0
	2/24/2011	<10	<10	<2.0	<2.0	**2.0**	<2.0	<2.0	**2.6**	**240**	<2.0	<2.0
	5/10/2011[3]	<10	<10	<2.0	<2.0	<2.0	<2.0	<2.0	**2.3**	**250**	<2.0	<2.0
	7/28/2011[4]	<10	<10	<2.0	<2.0	**2.0**	<2.0	**2.2**	**2.4**	**280**	<2.0	<2.0
	10/7/2011	<10	<10	<2.0	<2.0	<2.0	<2.0	**2.5**	**2.5**	**220**	<2.0	<2.0
	1/10/2012	<10	<10	<2.0	<2.0	<2.0	<2.0	**2.8**	**2.5**	**190**	<2.0	<2.0
	4/5/2012	<10	<10	<2.0	<2.0	**2.7**	<2.0	**3.5**	**3.4**	**210**	<2.0	<2.0

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Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the depth to groundwater intersects or may periodically intersect an overlaying clay unit. The depth to the bottom of the upper clay unit is approximately 7.0 feet below ground surface (ft bgs) at MW-09s, 8.0 ft bgs at MW-20s (based on boring log for nearby soil boring B-29), 15.0 ft bgs at MW-23, 9.0 ft bgs at MW-27s, 20.5 ft bgs at MW-29d, and 14.0 ft bgs at MW-30s and MW-30d.

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4) Quality control results for trichloroethene are outside the established control limits, the result is approximate.
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Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-03s (9-14') Depth to Groundwater 8.1 - 10.2'	3/13/2009	<10	<10	**9.1**	<2.0	**240**	**9.1**	<2.0	<2.0	<2.0	<2.0	**140**
	4/20/2009	NA	<50	**18**	<10	**490**	**18**	<10	<10	<10	NA	**210**
	12/8/2009	<120	<120	**46**	<25	**2,200**	**83**	<25	<25	<25	<25	**130**
	3/17/2010	<25	<25	**11**	<5.0	**460**	**17**	<5.0	<5.0	<5.0	<5.0	**42**
	5/18/2010	<25	<25	**14**	<5.0	**630**	**24**	<5.0	<5.0	<5.0	<5.0	**34**
	9/10/2010	<50	<50	**29**	<10	**1,600**	**63**	<10	<10	<10	<10	**83**
	12/22/2010	<50	<50	**32**	<10	**1,800**	**82**	<10	<10	<10	<10	**70**
	2/25/2011	<100	<100	**33**	<20	**2,200**	**110**	<20	<20	<20	<20	**75**
	5/10/2011[3]	<100	<100	**25**	<20	**1,600**	**77**	<20	<20	<20	<20	**52**
	7/28/2011	<100	<100	**23**	<20	**1,700**	**78**	<20	<20	<20	<20	**65**
	10/6/2011	<100	<100	**24**	<20	**2,100**	**100**	<20	<20	<20	<20	**91**
	1/10/2012	<50	<50	**22**	<10	**1,300**	**81**	<10	<10	<10	<10	**51**
	4/4/2012	<100	<100	<20	<20	**1,600**	**84**	<20	<20	**20**	<20	**170**
DUP-01 (MW-03s)	12/8/2009	<120	<120	**42**	<25	**2,000**	**73**	<25	<25	<25	<25	**120**
MW-04s (15-20') Depth to Groundwater 14.6 - 17.0'	3/13/2009	<120	<120	<25	<25	**2,100**	**70**	<25	<25	**5,000**	<25	**460**
	4/20/2009	NA	<500	<100	<100	**1,700**	<100	<100	<100	**4,000**	NA	**520**
	12/9/2009	<250	<250	<50	<50	**2,500**	**90**	<50	<50	**7,100**	<50	**270**
	3/17/2010	<250	<250	<50	<50	**2,900**	**82**	<50	<50	**7,500**	<50	**520**
	5/18/2010	<250	<250	<50	<50	**2,100**	**58**	<50	<50	**4,700**	<50	**280**
	9/17/2010	<250	<250	<50	<50	**2,400**	**70**	<50	<50	**5,200**	<50	**200**
	12/22/2010	<250	<250	<50	<50	**2,700**	**91**	<50	<50	**6,700**	<50	**270**
	2/25/2011	<250	<250	<50	<50	**2,500**	**82**	<50	<50	**5,900**	<50	**280**
	5/11/2011[3]	<250	<250	<50	<50	**1,900**	**58**	<50	<50	**4,600**	<50	**270**
	7/28/2011	<250	<250	<50	<50	**1,700**	**50**	<50	<50	**4,600**	<50	**190**
	10/6/2011	<250	<250	<50	<50	**2,000**	**58**	<50	<50	**4,600**	<50	**190**
	1/10/2012	<250	<250	<50	<50	**1,800**	**72**	<50	<50	**4,800**	<50	**190**
	4/4/2012	<250	<250	<50	<50	**1,600**	**54**	<50	<50	**4,300**	<50	**170**

Notes:

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Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the depth to groundwater intersects or may periodically intersect an overlaying clay unit. The depth to the bottom of the upper clay unit is approximately 7.0 feet below ground surface (ft bgs) at MW-09s, 8.0 ft bgs at MW-20s (based on boring log for nearby soil boring B-29), 15.0 ft bgs at MW-23, 9.0 ft bgs at MW-27s, 20.5 ft bgs at MW-29d, and 14.0 ft bgs at MW-30s and MW-30d.

1) 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.

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Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		2-Butanone	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-05s (25-30') Depth to Groundwater 24.6 - 27.1'	3/13/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**3.5**	<1.0	**120**	<1.0	<1.0
	4/20/2009	NA	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**140**	NA	<5.0
	12/10/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**5.3**	<1.0	**190**	<1.0	<1.0
	3/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**6.3**	<1.0	**160**	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**4.6**	<1.0	**160**	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**4.6**	<1.0	**140**	<1.0	<1.0
	12/21/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**4.9**	<1.0	**160**	<1.0	<1.0
	2/24/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**4.4**	<1.0	**130**	<1.0	<1.0
	5/13/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**4.9**	<1.0	**160**	<1.0	<1.0
	7/27/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**4.8**	<1.0	**150**	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**5.1**	<1.0	**150**	<1.0	<1.0
	1/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**5.8**	<1.0	**150**	<1.0	<1.0
	4/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**5.7**	<1.0	**160**	<1.0	<1.0
MW-06s (24-29') Depth to Groundwater 23.3 - 26.0'	3/16/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**21**	<1.0	<1.0
	4/20/2009	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**23**	NA	<1.0
	12/9/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**37**	<1.0	<1.0
	3/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**31**	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**33**	<1.0	<1.0
	9/10/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**29**	<1.0	<1.0
	12/21/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**34**	<1.0	<1.0
	2/18/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**35**	<1.0	<1.0
	5/10/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**27**	<1.0	<1.0
	7/27/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**27**	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**30**	<1.0	<1.0
	1/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**31**	<1.0	<1.0
	4/3/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**32**	<1.0	<1.0

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Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-07s (23.5-28.5') Depth to Groundwater 23.9 - 26.3'	3/16/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	**10**	<1.0	<1.0
	4/20/2009	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.6**	**11**	NA	<1.0
	12/10/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.8**	**14**	<1.0	<1.0
	3/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.9**	**13**	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.9**	**13**	<1.0	<1.0
	9/10/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**	**12**	<1.0	<1.0
	12/21/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	**16**	<1.0	<1.0
	2/24/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.6**	**12**	<1.0	<1.0
	5/13/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.5**	**12**	<1.0	<1.0
	7/27/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	**11**	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**	**13**	<1.0	<1.0
	1/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.6**	**14**	<1.0	<1.0
	4/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	**12**	<1.0	<1.0
MW-08s (23.5-28.5') Depth to Groundwater 23.5 - 26.0'	3/16/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0
	4/20/2009	NA	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	NA	<1.0
	12/10/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**	<1.0	<1.0
DUP-01 (MW-08s)	4/20/2009	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	NA	<1.0
MW-09s (7-12') Depth to Groundwater* 4.8 - 7.5'	3/16/2009	<100	<100	<20	<20	<20	<20	<20	**160**	**1,700**	<20	<20
	4/20/2009	NA	<500	<100	<100	<100	<100	<100	**220**	**2,100**	NA	<100
	12/9/2009	<100	<100	<20	<20	<20	<20	<20	**150**	**2,400**	<20	<20
	3/18/2010	<100	<100	<20	<20	<20	<20	<20	**120**	**1,500**	<20	<20
	5/18/2010	<100	<100	<20	<20	<20	<20	<20	**120**	**1,700**	<20	<20
	9/17/2010	<100	<100	<20	<20	<20	<20	<20	**120**	**1,700**	<20	<20
	2/25/2011	<50	<50	<10	<10	<10	<10	<10	**84**	**1,100**	<10	<10
	5/11/2011[3]	<50	<50	<10	<10	<10	<10	<10	**83**	**1,200**	<10	<10

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Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-10s (8-13') Depth to Groundwater 7.0 - 9.0'	5/15/2009	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/9/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/4/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/4/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/2/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-02 (MW-10s)	5/15/2009	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10d (14-19') Depth to Groundwater 8.7 -10.2'	12/9/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11s (29-34') Depth to Groundwater 28.6 - 31.5'	5/14/2009	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/13/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/22/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/4/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-02 (MW-11s)	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-01 (MW-11s)	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-12s (12-17') Depth to Groundwater 12.7 - 15.0'	5/15/2009	NA	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	<1.0
	12/30/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.0**	<1.0	<1.0	<1.0	<1.0
	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.6**	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.6**	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	<1.0
	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.9**	<1.0	<1.0	<1.0	<1.0
	1/4/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**2.2**	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<1.0	<1.0
MW-12d (33-38') Depth to Groundwater 13.1 - 15.0'	3/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
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Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-13s (13-18') Depth to Groundwater 15.2 - 17.2'	5/15/2009	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/10/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/4/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-14s (4-9') Depth to Perched Groundwater 2.7 - 7.3'	5/14/2009	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/8/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/11/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
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	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/4/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-14d (37.5-42.5') Depth to Groundwater 30.0 - 30.8'	3/23/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/3/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/21/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/4/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/2/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-01 (MW-14d)	2/16/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/21/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/4/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/2/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-15s (30-35') Depth to Groundwater 29.8 - 32.5'	5/15/2009	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/30/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/25/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-17s (3-8') Depth to Groundwater 5.7 - 6.2'	7/23/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/7/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/11/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/21/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/4/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/2/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-18s (26-31') Depth to Groundwater 25.4 - 27.4'	12/8/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
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Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-19s (25-30') Depth to Groundwater 23.5 - 25.6'	12/8/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.8**	**31**	<1.0	<1.0
	1/13/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.2**	**2.3**	**36**	<1.0	<1.0
	3/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.7**	**36**	<1.0	<1.0
	5/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.6**	**32**	<1.0	<1.0
	9/10/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.2**	**1.8**	**33**	<1.0	<1.0
	12/20/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.8**	**37**	<1.0	<1.0
	2/18/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.8**	**41**	<1.0	<1.0
	5/10/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.5**	**28**	<1.0	<1.0
	7/25/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.0**	**1.4**	**27**	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.7**	**28**	<1.0	<1.0
	1/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.2**	**1.9**	**34**	<1.0	<1.0
	4/3/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.5**	**32**	<1.0	<1.0
DUP-03 (MW-19s)	9/10/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.0**	**1.7**	**32**	<1.0	<1.0
DUP-02 (MW-19s)	2/18/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.8**	**39**	<1.0	<1.0
	5/10/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.6**	**29**	<1.0	<1.0
	7/25/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.4**	**27**	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.6**	**28**	<1.0	<1.0
	1/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.2**	**1.8**	**34**	<1.0	<1.0
	4/3/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	**1.1**	**1.6**	**32**	<1.0	<1.0
MW-19d (40-45') Depth to Groundwater 23.5 - 25.6'	12/8/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/18/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/10/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/25/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/3/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-01 (MW-19d)	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

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

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

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

5) Headspace present in the sample, results are approximate.

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Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-20s (8-13') Depth to Groundwater* 4.0 - 5.8'	12/30/2009	<5.0	<5.0	**48**	**4.0**	**9.6**	<1.0	<1.0	**150**	**71**	**2.9**	<1.0
	1/13/2010	<5.0	<5.0	**50**	**3.5**	**9.0**	<1.0	<1.0	**170**	**70**	**2.8**	<1.0
	3/17/2010	<5.0	<5.0	**51**	**3.8**	**9.4**	<1.0	<1.0	**160**	**64**	**3.2**	<1.0
	5/18/2010	<10	<10	**58**	**5.1**	**12**	<2.0	<2.0	**210**	**94**	**3.4**	<2.0
	9/10/2010	<10	<10	**34**	**4.2**	**9.7**	<2.0	<2.0	**230**	**110**	**3.8**	<2.0
	12/21/2010	<10	<10	**24**	**3.6**	**6.1**	<2.0	<2.0	**200**	**89**	**3.6**	<2.0
	2/18/2011	<10	<10	**19**	**3.3**	**5.5**	<2.0	<2.0	**190**	**93**	**3.5**	<2.0
	5/13/2011	<10	<10	**14**	**2.8**	**4.1**	<2.0	<2.0	**190**	**91**	**2.9**	<2.0
	7/25/2011	<10	<10	**6.5**	<2.0	**2.4**	<2.0	<2.0	**190**	**100**	**2.3**	<2.0
	10/10/2011	<10	<10	**5.8**	<2.0	<2.0	<2.0	<2.0	**190**	**110**	**3.1**	<2.0
	1/9/2012	<5.0	<5.0	**6.0**	**1.4**	**1.9**	<1.0	<1.0	**190**	**100**	**3.2**	<1.0
	4/9/2012	<5.0	<5.0	**11**	**1.1**	**2.0**	<1.0	<1.0	**180**	**100**	**2.6**	<1.0
MW-20d (38.5-43.5') Depth to Groundwater 11.7 - 15.6'	12/30/2009	<5.0	<5.0	**1.2**	<1.0	**86**	<1.0	<1.0	**1.9**	<1.0	<1.0	**3.5**
	1/13/2010	<5.0	<5.0	<1.0	<1.0	**94**	**2.0**	<1.0	<1.0	<1.0	<1.0	**3.7**
	3/17/2010	<5.0	<5.0	<1.0	<1.0	**85**	<1.0	<1.0	<1.0	<1.0	<1.0	**4.4**
	5/18/2010	<5.0	<5.0	<1.0	<1.0	**120**	<1.0	<1.0	<1.0	<1.0	<1.0	**3.7**
	9/10/2010	<5.0	<5.0	<1.0	<1.0	**95**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/21/2010	<5.0	<5.0	<1.0	<1.0	**200**	<1.0	<1.0	<1.0	<1.0	<1.0	**3.5**
	2/18/2011	<10	<10	<2.0	<2.0	**190**	<2.0	<2.0	<2.0	<2.0	<2.0	**3.2**
	5/13/2011	<10	<10	<2.0	<2.0	**170**	<2.0	<2.0	<2.0	<2.0	<2.0	**2.6**
	7/25/2011	<5.0	<5.0	<1.0	<1.0	**170**	<1.0	<1.0	<1.0	<1.0	<1.0	**2.6**
	10/10/2011	<10	<10	<2.0	<2.0	**200**	<2.0	<2.0	<2.0	<2.0	<2.0	**2.5**
	1/9/2012	<5.0	<5.0	<1.0	<1.0	**140**	<1.0	<1.0	<1.0	<1.0	<1.0	**6**
	4/9/2012	<5.0	<5.0	<1.0	<1.0	**190**	<1.0	<1.0	<1.0	**1.0**	<1.0	**10**
DUP-03 (MW-20d)	5/18/2010	<5.0	<5.0	<1.0	<1.0	**120**	**1.0**	<1.0	<1.0	<1.0	<1.0	**3.7**

Notes:

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Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

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4) Quality control results for trichloroethene are outside the established control limits, the result is approximate.
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Analyte		2-Butanone	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-21 (28.5-33.5') Depth to Groundwater 29.3 - 30.3'	12/8/2009	<50	<50	**31**	<10	**59**	<10	<10	**54**	**840**	<10	<10
	1/13/2010	<50	<50	**28**	<10	**62**	<10	<10	**56**	**730**	<10	<10
	3/23/2010	<5.0	<5.0	**33**	**2.2**	**81**	**7.5**	<1.0	**62**	**850**	<1.0	<1.0
	5/18/2010	<50	<50	**35**	<10	**89**	<10	<10	**63**	**830**	<10	<10
	10/15/2010	<50	<50	**26**	<10	**80**	<10	<10	**59**	**810**	<10	<10
	12/22/2010	<50	<50	**25**	<10	**69**	<10	<10	**55**	**730**	<10	<10
	2/24/2011	<50	<50	**25**	<10	**66**	<10	<10	**52**	**730**	<10	<10
	5/11/2011[3]	<50	<50	**24**	<10	**65**	<10	<10	**49**	**740**	<10	<10
	7/28/2011	<50	<50	**22**	<10	**77**	<10	<10	**54**	**1,000**	<10	<10
	10/6/2011	<50	<50	**22**	<10	**74**	<10	<10	**55**	**960**	<10	<10
	1/10/2012	<50	<50	**27**	<10	**79**	<10	<10	**64**	**990**	<10	<10
	4/4/2012	<50	<50	**25**	<10	**81**	<10	<10	**55**	**980**	<10	<10
DUP-02 (MW-21)	3/23/2010	<5.0	<5.0	**33**	**2.2**	**79**	**7.8**	<1.0	**61**	**810**	<1.0	<1.0
DUP-03 (MW-21)	2/24/2011	<50	<50	**24**	<10	**66**	<10	<10	**50**	**740**	<10	<10
	5/11/2011[3]	<50	<50	**24**	<10	**66**	<10	<10	**49**	**750**	<10	<10
	7/28/2011	<50	<50	**23**	<10	**78**	<10	<10	**57**	**1,000**	<10	<10
	10/6/2011	<50	<50	**21**	<10	**73**	<10	<10	**52**	**910**	<10	<10
	1/10/2012	<50	<50	**27**	<10	**85**	<10	<10	**66**	**1,000**	<10	<10
	4/4/2012	<50	<50	**24**	<10	**81**	<10	<10	**61**	**970**	<10	<10
MW-22 (25-30') Depth to Groundwater 25.1 - 25.6'	12/7/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**
	3/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**8.5**
	5/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.0**
	9/10/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.3**
	12/22/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.0**
	2/24/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.3**
	5/11/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**
	7/21/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.8**
	10/4/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.2**
	1/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**8.4**
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**12**

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Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-23 (17-22') Depth to Groundwater* 8.5 - 10.4'	12/8/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.2**
	1/13/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**7.6**
	3/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.0**
	5/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.1**
	9/10/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**9.0**
	12/21/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**17**
	2/18/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**18**
	5/10/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**25**
	7/25/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**23**
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**56**
	11/4/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**
	1/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**48**
	4/3/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**85**
MW-24s (18.5'-23.5') Depth to Groundwater 18.5 - 20.7'	12/8/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/19/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/4/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/2/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Tecumseh, Michigan

Analyte		2-Butanone	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-24d (39-44') Depth to Groundwater 18.5 - 20.7'	12/8/2009	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/14/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/19/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/4/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/2/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-25s (20-25') Depth to Groundwater 18.3 - 20.3'	12/10/2009	<5.0	<5.0	**1.7**	<1.0	**8.8**	<1.0	<1.0	**4.8**	<1.0	<1.0	<1.0
	3/16/2010	<5.0	<5.0	**1.2**	<1.0	<1.0	<1.0	<1.0	**17**	**1.1**	<1.0	<1.0
	5/14/2010	<5.0	<5.0	**1.2**	<1.0	<1.0	<1.0	<1.0	**18**	**1.0**	<1.0	<1.0
	9/8/2010	<5.0	<5.0	**1.0**	<1.0	<1.0	<1.0	<1.0	**19**	**1.4**	<1.0	<1.0
	12/22/2010	<5.0	<5.0	**1.2**	<1.0	<1.0	<1.0	<1.0	**26**	**2.4**	<1.0	<1.0
	2/24/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**19**	**2.2**	<1.0	<1.0
	5/13/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**21**	**2.2**	<1.0	<1.0
	7/28/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**19**	**2.5**	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**20**	**2.8**	<1.0	<1.0
	1/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**20**	**3.0**	<1.0	<1.0
	4/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	**20**	**3.6**	<1.0	<1.0
DUP-01 (MW-25s)	3/16/2010	<5.0	<5.0	**1.3**	<1.0	<1.0	<1.0	<1.0	**18**	**1.0**	<1.0	<1.0

Notes:

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Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-26s (28-33') Depth to Groundwater 25.5 - 27.6'	4/6/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/14/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/17/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/25/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-27s (7-12') Depth to Groundwater* 2.7 - 4.1'	3/23/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.0**	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0
	7/21/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/3/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
DUP-02 (MW-27s)	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-27d (37.5-42.5') Depth to Groundwater 23.5 - 24.5'	3/23/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/20/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/9/2011[3]	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/22/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/5/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/3/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-28s (25-30') Depth to Groundwater 24.5 - 26.7'	3/23/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/22/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-28d (49-54') Depth to Groundwater 24.6 - 26.8'	3/23/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/16/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/22/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/7/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-29s (13-18') Depth to Groundwater 15.0 - 16.3'	3/18/2010	<5.0	<5.0	<1.0	<1.0	**1.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/15/2010	<5.0	<5.0	<1.0	<1.0	**1.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<5.0	<1.0	<1.0	**1.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	**1.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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

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

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

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Analyte		2-Butanone	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-29d (58.5-63.5') Depth to Groundwater* 18.1 - 19.3'	3/18/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/15/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/12/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/5/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-30s (11-16') Depth to Groundwater* 9.1 - 11.0'	3/23/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/13/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-30d (25.5-30.5') Depth to Groundwater* 9.0 - 10.9'	3/23/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/17/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/9/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/16/2010	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2/15/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	5/13/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/10/2011	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/6/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/9/2012	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Former Tecumseh Products Company Site
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Analyte		2-Butanone	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MW-31 (33.3-38.3') Depth to Groundwater 31.9 - 33.3'	6/18/2010	<5.0	<5.0	**14**	<1.0	**19**	**2.2**	<1.0	**20**	**180**	<1.0	<1.0
	9/17/2010	<10	<10	<2.0	<2.0	**15**	<2.0	<2.0	**48**	**220**	<2.0	**2.5**
	12/22/2010[4]	<10	<10	**16**	<2.0	**29**	**2.9**	<2.0	**27**	**260**	<2.0	<2.0
	2/24/2011	<10	<10	**16**	<2.0	**31**	**3.1**	<2.0	**26**	**300**	<2.0	<2.0
	5/11/2011[3]	<10	<10	**15**	<2.0	**24**	**3.0**	<2.0	**22**	**250**	<2.0	<2.0
	7/21/2011	<5.0	<5.0	**7.4**	<1.0	**14**	**1.2**	<1.0	**11**	**130**	<1.0	<1.0
	10/4/2011	<5.0	<5.0	**18**	<1.0	**40**	**3.4**	<1.0	**28**	**340**	<1.0	<1.0
	1/10/2012	<10	<10	**17**	<2.0	**35**	**3.1**	<2.0	**24**	**290**	<2.0	<2.0
	4/5/2012	<10	<10	**16**	<2.0	**36**	**3.1**	<2.0	**24**	**290**	<2.0	<2.0
DUP-01 (MW-31)	6/18/2010	<5.0	<5.0	**12**	<1.0	**19**	**2.3**	<1.0	**21**	**170**	<1.0	<1.0
MW-32s (23-28') Depth to Groundwater 22.7 - 24.8'	9/17/2010	<100	<100	**150**	<20	**270**	**26**	<20	**220**	**2,400**	<20	<20
	11/18/2010	<100	<100	<20	<20	**190**	<20	<20	**560**	**2,800**	<20	<20
	12/28/2010	<100	<100	<20	<20	**200**	<20	<20	**510**	**2,300**	<20	<20
	2/25/2011	<100	<100	<20	<20	**190**	<20	<20	**420**	**2,300**	<20	<20
	5/10/2011[3]	<100	<100	<20	<20	**170**	<20	<20	**380**	**2,300**	<20	**31**
	7/28/2011	<100	<100	<20	<20	**140**	<20	<20	**380**	**2,400**	<20	<20
	10/6/2011	<100	<100	<20	<20	**160**	<20	<20	**350**	**2,200**	<20	<20
	1/10/2012	<100	<100	<20	<20	**170**	<20	<20	**400**	**2,300**	<20	<20
	4/4/2012	<100	<100	<20	<20	**130**	<20	<20	**340**	**2,200**	<20	<20
MW-33s (21-26') Depth to Groundwater 19.9 - 21.8'	9/17/2010	<5.0	<5.0	**12**	<1.0	**13**	<1.0	<1.0	<1.0	**76**	<1.0	**64**
	11/18/2010	<5.0	<5.0	**14**	<1.0	**22**	<1.0	<1.0	**1.1**	**150**	<1.0	**56**
	12/22/2010	<5.0	<5.0	**14**	<1.0	**22**	**1.2**	<1.0	**1.0**	**130**	<1.0	**57**
	2/24/2011	<5.0	<5.0	**12**	<1.0	**20**	**1.0**	<1.0	<1.0	**110**	<1.0	**60**
	5/10/2011[3]	<10	<10	**11**	<2.0	**21**	<2.0	<2.0	<2.0	**220**	<2.0	**55**
	7/28/2011	<10	<10	**8.9**	<2.0	**18**	<2.0	<2.0	<2.0	**260**	<2.0	**22**
	10/6/2011	<10	<10	**11**	<2.0	**19**	<2.0	<2.0	<2.0	**220**	<2.0	**48**
	1/9/2012[5]	<5.0	**8.9**	**15**	<1.0	**20**	**1.0**	<1.0	**1.3**	**170**	<1.0	**51**
	4/4/2012	<5.0	**5.6**	**17**	<1.0	**21**	<1.0	<1.0	**1.2**	**170**	<1.0	**48**

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3) The average temperature in this sample shipment exceeded the recommended temperature range. Sample results are approximate.
4) Quality control results for trichloroethene are outside the established control limits, the result is approximate.
5) Headspace present in the sample, results are approximate.

US EPA ARCHIVE DOCUMENT

Table 1
Summary of Detected Volatile Organic Compounds in Groundwater
Groundwater Stability Monitoring Well Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		2-Butanone	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Trichloro-fluoromethane	Vinyl Chloride
Residential DW Criteria		13,000	430	880	7.0	70	100	5.0	200	5.0	2,600	2.0
Non-Residential DW Criteria		38,000	1,700	2,500	7.0	70	100	5.0	200	5.0	7,300	2.0
GSI Criteria		2,200	1,100	740	130	620	1,500[1]	60[1]	89	200[1]	NC	13[1]
Residential GWSLs for Vapor Intrusion		4.5E+06	NC	130	390	440	330	11	15,000	9.9	370	5.0
Non-Residential GWSLs for Vapor Intrusion		1.9E+07	NC	670	1,600	1,800	1,400	55	63,000	42	1,600	50
Groundwater Contact Criteria		2.4E+08	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	12,000	1.3E+06	22,000	1.1E+06	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
DUP-01 (MW-33s)	11/18/2010	<5.0	<5.0	**14**	<1.0	**23**	<1.0	<1.0	**1.2**	**150**	<1.0	**55**
MW-34s (23-28') Depth to Groundwater 22.8 - 24.8'	9/17/2010	<100	<100	<20	<20	<20	<20	<20	**1,600**	**1,100**	<20	<20
	11/18/2010	<100	<100	<20	<20	<20	<20	<20	**1,600**	**1,200**	<20	<20
	12/28/2010	<50	<50	<10	**13**	<10	<10	<10	**1,400**	**1,000**	<10	<10
	2/25/2011	<50	<50	<10	<10	<10	<10	<10	**1,100**	**900**	<10	<10
	5/10/2011[3]	<50	<50	<10	<10	<10	<10	<10	**1,200**	**970**	<10	<10
	7/28/2011	<50	<50	<10	<10	<10	<10	<10	**1,300**	**1,100**	<10	<10
	10/6/2011	<50	<50	<10	<10	<10	<10	<10	**1,200**	**1,000**	<10	<10
	1/10/2012	<50	<50	<10	**14**	<10	<10	<10	**1,500**	**1,100**	<10	<10
	4/4/2012	<50	<50	<10	<10	<10	<10	<10	**1,400**	**1,200**	<10	<10

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria, Groundwater/Surface Water Interface (GSI) Criteria and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDEQ Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels (GW_{VI}SLs) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA) as of February 1, 2012.

ug/L = micrograms per liter

NC = No criteria

NA = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the depth to groundwater intersects or may periodically intersect an overlaying clay unit. The depth to the bottom of the upper clay unit is approximately 7.0 feet below ground surface (ft bgs) at MW-09s, 8.0 ft bgs at MW-20s (based on boring log for nearby soil boring B-29), 15.0 ft bgs at MW-23, 9.0 ft bgs at MW-27s, 20.5 ft bgs at MW-29d, and 14.0 ft bgs at MW-30s and MW-30d.

1) 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.

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

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

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

5) Headspace present in the sample, results are approximate.

US EPA ARCHIVE DOCUMENT

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater
PRB Performance Monitoring
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		Acetone[2]	2-Butanone	Benzene[2]	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[2]	Isopropylbenzene	n-Propyl Benzene[2]	Tetra-chloroethene	Toluene[2]	1,1,1-Tri-chloroethane	Tri-chloroethene	Vinyl Chloride	Total Xylenes[2]
Residential Health-Based DW Criteria		730	13,000	5.0	430	880	7.0	70	100	700	800	80	5.0	1,000	200	5.0	2.0	10,000
Non-Residential Health-Based DW Criteria		2,100	38,000	5.0	1,700	2,500	7.0	70	100	700	2,300	230	5.0	1,000	200	5.0	2.0	10,000
GSI Criteria		1,700	2,200	200[1]	1,100[1]	740	130	620	1,500[1]	18	28	NC	60[1]	270	89	200[1]	13[1]	41
Residential GWSLs for Vapor Intrusion		NC	4.5E+06	NC	NC	130	390	440	330	NC	NC	NC	11	NC	15,000	9.9	5.0	NC
Non-Residential GWSLs for Vapor Intrusion		NC	1.9E+07	NC	NC	670	1,600	1,800	1,400	NC	NC	NC	55	NC	63,000	42	50	NC
Groundwater Contact Criteria		3.1E+07	2.4E+08	11,000	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	1.7E+05	56,000	15,000	12,000	5.3E+05	1.3E+06	22,000	1,000	1.9E+05
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
PRB-01s (6-11') Depth to Groundwater* 5.5 - 6.4'	8/10/2011	<1,000	<250	<50	<250	<50	**170**	<50	<50	<50	<50	<50	<50	<50	**3,700**	**3,900**	<50	<150
	10/7/2011	<500	<120	<25	<120	<25	**42**	<25	<25	<25	<25	<25	<25	<25	**2,900**	**3,300**	<25	<75
	1/11/2012	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	**960**	**2,000**	<10	<30
	4/10/2012	<400	<100	<20	<100	**50**	**31**	**230**	<20	<20	<20	<20	<20	<20	**670**	**1,800**	**22**	<30
PRB-02s (6-11') Depth to Groundwater* 5.5 - 6.4'	8/10/2011	<500	<120	<25	<120	<25	<25	<25	<25	<25	<25	<25	<25	<25	**110**	**3,100**	<25	<75
	10/7/2011	<500	<120	<25	<120	<25	<25	<25	<25	<25	<25	<25	<25	<25	**80**	**2,300**	<25	<75
	1/11/2012	<400	<100	<20	<100	<20	<20	**1,200**	<20	<20	<20	<20	<20	<20	**64**	**1,900**	<20	<60
	4/10/2012	<400	<100	<20	<100	<20	<20	**1,800**	**23**	<20	<20	<20	<20	<20	**36**	**1,300**	<20	<60
PRB-03s (6-11') Depth to Groundwater* 5.4 - 6.2'	8/10/2011	<200	<50	<10	<50	**19**	<10	<10	<10	**560**	<10	<10	<10	<10	<10	**14**	<10	**3,400**
	10/6/2011	<200	<50	<10	<50	**17**	<10	<10	<10	**510**	<10	<10	<10	<10	<10	**10**	<10	**2,990**
	1/11/2012	<100	<25	<5.0	<25	**13**	<5.0	<5.0	<5.0	**320**	<5.0	<5.0	<5.0	<5.0	<5.0	**24**	<5.0	**1,920**
	4/10/2012	<40	<10	<2.0	<10	**11**	<2.0	<2.0	<2.0	**170**	**2.3**	**2.2**	<2.0	<2.0	**3.6**	**25**	<2.0	**890**
PRB-04s (6-11') Depth to Groundwater* 6.2 - 7.1'	8/10/2011	<200	**110**	<10	<50	<10	<10	**590**	<10	<10	<10	<10	<10	<10	**100**	**1,100**	<10	<30
	10/7/2011	<500	**900**	<25	<120	<25	<25	**3,400**	<25	<25	<25	<25	<25	<25	**62**	<25	<25	<75
	1/11/2012	<500	**440**	<25	<120	**110**	<25	**3,600**	**36**	<25	<25	<25	<25	<25	**34**	<25	**67**	<75
	4/10/2012	<500	**360**	<25	**130**	**200**	<25	**2,400**	**37**	<25	<25	<25	<25	<25	<25	**26**	**190**	<75
PRB-04d (25-30') Depth to Groundwater* 6.3 - 7.1'	8/10/2011	<20	**10**	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**9.8**	**12**	<3.0
	10/7/2011	<20	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.4**	**11**	<3.0
	1/11/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**2.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.2**	**9.4**	<3.0
	4/10/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**1.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	**9.4**	<3.0
PRB-05s (6-11') Depth to Groundwater* 5.8 - 6.7'	8/11/2011	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	**270**	<10	**57**	**990**	<10	<30
	10/6/2011	<200	<50	<10	<50	<10	<10	**21**	<10	<10	<10	<10	**270**	<10	**53**	**1,000**	<10	<30
	1/12/2012	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	**230**	<10	**35**	**780**	<10	<30
	4/9/2012	<100	<25	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**200**	<5.0	**28**	**630**	<5.0	<15
PRB-06s (6-11') Depth to Groundwater* 5.9 - 6.5'	8/11/2011	<1,000	**3,600**	<50	<250	**360**	<50	**4,200**	<50	<50	<50	<50	<50	<50	<50	**310**	<50	<150
	10/6/2011	<1,000	**5,800**	<50	<250	**260**	<50	**6,000**	<50	<50	<50	<50	<50	<50	<50	<50	**71**	<150
	1/12/2012	<200	**940**	<10	**81**	<10	<10	**300**	<10	<10	<10	<10	<10	<10	<10	<10	**35**	<30
	4/10/2012	**24**	**130**	**1.0**	**71**	<1.0	<1.0	**35**	**2.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.7**	**18**	<3.0
PRB-07s (7-12') Depth to Groundwater* 5.4 - 6.2'	8/10/2011	<200	**120**	<10	<50	<10	<10	**880**	<10	<10	<10	<10	<10	<10	**100**	**1,200**	<10	<30
	10/7/2011	<200	<50	<10	<50	**16**	**10**	**790**	**18**	<10	<10	<10	<10	<10	**130**	**1,400**	<10	<30
	1/11/2012	<200	<50	<10	<50	<10	<10	**510**	<10	<10	<10	<10	<10	<10	**92**	**1,300**	<10	<30
	4/10/2012	<200	<50	<10	<50	<10	<10	**260**	**28**	<10	<10	<10	<10	<10	**56**	**1,100**	<10	<30

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria, Groundwater/Surface Water Interface (GSI) Criteria and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDEQ Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels ($GW_{VI}SLs$) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA) as of February 1, 2012.

ug/L = micrograms per liter

NC = No criteria

Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the depth to groundwater intersects or may periodically intersect an overlaying clay unit. The depth to the bottom of the upper clay unit is approximately 3.5 feet below ground surface (ft bgs) at PRB-09s; 4.0 ft bgs at PRB-06s; 5.0 ft bgs at PRB-08s, PRB-08d, and PRB-10s; 6.5 ft bgs at PRB-01s, PRB-02s, PRB-04s, and PRB-04d; 7.0 ft bgs at PRB-05s and PRB-07s; and 8.0 ft bgs at PRB-03s.

1) 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.

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

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater
PRB Performance Monitoring
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		Acetone[2]	2-Butanone	Benzene[2]	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[2]	Isopropylbenzene	n-Propyl Benzene[2]	Tetra-chloroethene	Toluene[2]	1,1,1-Tri-chloroethane	Tri-chloroethene	Vinyl Chloride	Total Xylenes[2]
Residential Health-Based DW Criteria		730	13,000	5.0	430	880	7.0	70	100	700	800	80	5.0	1,000	200	5.0	2.0	10,000
Non-Residential Health-Based DW Criteria		2,100	38,000	5.0	1,700	2,500	7.0	70	100	700	2,300	230	5.0	1,000	200	5.0	2.0	10,000
GSI Criteria		1,700	2,200	200[1]	1,100[1]	740	130	620	1,500[1]	18	28	NC	60[1]	270	89	200[1]	13[1]	41
Residential GWSLs for Vapor Intrusion		NC	4.5E+06	NC	NC	130	390	440	330	NC	NC	NC	11	NC	15,000	9.9	5.0	NC
Non-Residential GWSLs for Vapor Intrusion		NC	1.9E+07	NC	NC	670	1,600	1,800	1,400	NC	NC	NC	55	NC	63,000	42	50	NC
Groundwater Contact Criteria		3.1E+07	2.4E+08	11,000	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	1.7E+05	56,000	15,000	12,000	5.3E+05	1.3E+06	22,000	1,000	1.9E+05
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
PRB-08s (6-11') Depth to Groundwater* 6.1 - 6.9'	8/10/2011	**83**	**39**	<1.0	<5.0	**11**	**1.0**	**84**	**9.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.3**	**31**	<3.0
	10/7/2011	**240**	**300**	<2.5	<12	**7.3**	<2.5	**77**	**9.2**	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	**24**	<7.5
	1/11/2012	<20	<5.0	<1.0	<5.0	**2.0**	<1.0	**35**	**4.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**10**	<3.0
	4/10/2012	<20	<5.0	<1.0	<5.0	**1.3**	<1.0	**18**	**2.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.5**	<3.0
PRB-08d (18.5-23.5') Depth to Groundwater* 6.0 - 6.9'	8/10/2011	<20	<5.0	<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	**14**	<3.0
	10/7/2011	<20	<5.0	<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	**2.6**	<3.0
	1/11/2012	<20	<5.0	<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	**3.2**	<3.0
	4/10/2012	<20	<5.0	<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	**5.1**	<3.0
PRB-09s (5-10') Depth to Groundwater* 6.5 - 7.2'	8/11/2011	**4,200**	**8,200**	<100	<500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<300
	10/6/2011	**13,000**	**17,000**	<100	<500	<100	<100	<100	<100	<100	<100	<100	<100	**110**	<100	<100	<100	<300
	1/12/2012	<200	**68**	<10	<50	<10	<10	**14**	<10	<10	<10	<10	<10	**1,400**	<10	<10	<10	<30
	2/9/2012	<200	**200**	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	**1,600**	<10	<10	<10	<30
	4/9/2012	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	**2,000**	<10	<10	<10	<30
PRB-10s (6-11') Depth to Groundwater* 6.8 - 7.6'	8/11/2011	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**11**	**1.7**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
	10/6/2011	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**16**	**2.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
	1/12/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**42**	**4.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
	4/9/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**26**	**3.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
PRB-11s (15-20') Depth to Groundwater 15.4 - 16.4'	8/10/2011	<20	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.4**	<1.0	<3.0
	10/6/2011	<20	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.5**	<1.0	<3.0
	1/11/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.7**	<1.0	<3.0
	4/9/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**	<1.0	<3.0
PRB-12s (15-20') Depth to Groundwater 15.7 - 16.6'	8/11/2011	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	**17**	<10	**33**	**1,100**	<10	<30
	10/7/2011	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	**17**	<10	**35**	**1,300**	<10	<30
	1/12/2012	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	**14**	<10	**26**	**950**	<10	<30
	4/9/2012	<200	<50	<10	<50	<10	<10	<10	<10	<10	<10	<10	**12**	<10	**25**	**850**	<10	<30
PRB-13s (19-24') Depth to Groundwater 17.8 - 18.7'	8/11/2011	<200	<50	<10	<50	<10	<10	**12**	<10	<10	<10	<10	<10	<10	**380**	**550**	**14**	<30
	10/6/2011	<500	<120	<25	<120	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,100**	**2,700**	<25	<75
	1/12/2012	<500	<120	<25	<120	<25	<25	**25**	<25	<25	<25	<25	<25	<25	**1,200**	**2,800**	<25	<75
	4/3/2012	<500	<120	<25	<120	<25	<25	<25	<25	<25	<25	<25	<25	<25	**1,100**	**2,500**	<25	<75

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria, Groundwater/Surface Water Interface (GSI) Criteria and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDEQ Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels ($GW_{VI}SLs$) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA) as of February 1, 2012.

ug/L = micrograms per liter

NC = No criteria

Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the depth to groundwater intersects or may periodically intersect an overlaying clay unit. The depth to the bottom of the upper clay unit is approximately 3.5 feet below ground surface (ft bgs) at PRB-09s; 4.0 ft bgs at PRB-06s; 5.0 ft bgs at PRB-08s, PRB-08d, and PRB-10s; 6.5 ft bgs at PRB-01s, PRB-02s, PRB-04s, and PRB-04d; 7.0 ft bgs at PRB-05s and PRB-07s; and 8.0 ft bgs at PRB-03s.

1) 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.

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

US EPA ARCHIVE DOCUMENT

Table 2
Summary of Detected Volatile Organic Compounds in Groundwater
PRB Performance Monitoring
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte		Acetone[2]	2-Butanone	Benzene[2]	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethene[2]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[2]	Isopropylbenzene	n-Propyl Benzene[2]	Tetra-chloroethene	Toluene[2]	1,1,1-Tri-chloroethane	Tri-chloroethene	Vinyl Chloride	Total Xylenes[2]
Residential Health-Based DW Criteria		730	13,000	5.0	430	880	7.0	70	100	700	800	80	5.0	1,000	200	5.0	2.0	10,000
Non-Residential Health-Based DW Criteria		2,100	38,000	5.0	1,700	2,500	7.0	70	100	700	2,300	230	5.0	1,000	200	5.0	2.0	10,000
GSI Criteria		1,700	2,200	200[1]	1,100[1]	740	130	620	1,500[1]	18	28	NC	60[1]	270	89	200[1]	13[1]	41
Residential GWSLs for Vapor Intrusion		NC	4.5E+06	NC	NC	130	390	440	330	NC	NC	NC	11	NC	15,000	9.9	5.0	NC
Non-Residential GWSLs for Vapor Intrusion		NC	1.9E+07	NC	NC	670	1,600	1,800	1,400	NC	NC	NC	55	NC	63,000	42	50	NC
Groundwater Contact Criteria		3.1E+07	2.4E+08	11,000	4.4E+05	2.4E+06	11,000	2.0E+05	2.2E+05	1.7E+05	56,000	15,000	12,000	5.3E+05	1.3E+06	22,000	1,000	1.9E+05
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
PRB-14s (19.5-24.5') Depth to Groundwater 17.0 - 18.0'	8/11/2011	<400	<100	<20	<100	<20	<20	**65**	<20	<20	<20	<20	<20	<20	**910**	**3,000**	**62**	<60
	10/6/2011	<400	<100	<20	<100	<20	<20	**48**	<20	<20	<20	<20	<20	<20	**1,100**	**3,300**	**65**	<60
	1/12/2012	<400	<100	<20	<100	<20	<20	**53**	<20	<20	<20	<20	<20	<20	**1,000**	**3,200**	**57**	<60
	4/3/2012	<400	<100	<20	<100	<20	<20	**29**	<20	<20	<20	<20	<20	<20	**990**	**2,700**	**32**	<60
PRB-15s (15-20') Depth to Groundwater 16.0 - 16.9'	8/11/2011	<400	<100	<20	<100	<20	<20	<20	<20	<20	<20	<20	<20	<20	**1,200**	**2,500**	<20	<60
	10/6/2011	<400	<100	<20	<100	<20	<20	**20**	<20	<20	<20	<20	<20	<20	**1,200**	**2,700**	<20	<60
	1/12/2012	<400	<100	<20	<100	<20	<20	**21**	<20	<20	<20	<20	<20	<20	**850**	**1,900**	<20	<60
	4/9/2012	<400	<100	<20	<100	<20	<20	**1,700**	<20	<20	<20	<20	<20	<20	**730**	**1,800**	<20	<60
PRB-15d (29-34') Depth to Groundwater 16.0 - 16.9'	8/11/2011	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**1.1**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.9**	<1.0	<3.0
	10/6/2011	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**5.8**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.3**	**13**	**1.9**	<3.0
	1/12/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**3.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.4**	**28**	**1.2**	<3.0
	4/9/2012	<20	<5.0	<1.0	<5.0	<1.0	<1.0	**6.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.0**	**24**	**2.0**	<3.0

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria, Groundwater/Surface Water Interface (GSI) Criteria and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDEQ Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels ($GW_{VI}SLs$) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA) as of February 1, 2012.

ug/L = micrograms per liter

NC = No criteria

Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the depth to groundwater intersects or may periodically intersect an overlaying clay unit. The depth to the bottom of the upper clay unit is approximately 3.5 feet below ground surface (ft bgs) at PRB-09s; 4.0 ft bgs at PRB-06s; 5.0 ft bgs at PRB-08s, PRB-08d, and PRB-10s; 6.5 ft bgs at PRB-01s, PRB-02s, PRB-04s, and PRB-04d; 7.0 ft bgs at PRB-05s and PRB-07s; and 8.0 ft bgs at PRB-03s.

1) 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.

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

US EPA ARCHIVE DOCUMENT

Table 3
Summary of Detected Volatile Organic Compounds at Source Area Grab Groundwater Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene[1]	Naphthalene	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Tri-chloroethane	1,1,2-Tri-chloroethane	Trichloro-ethene	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	7.0	70	100	700	520	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	7.0	70	100	700	1,500	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	NC	NC	NC	130	390	440	330	NC	NC	NC	11	NC	15,000	NC	9.9	NC	NC	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	NC	NC	NC	670	1,600	1,800	1,400	NC	NC	NC	55	NC	63,000	NC	42	NC	NC	50	NC
GSI Criteria	200[2]	NC	1,100[2]	350	740	130	620	1,500[2]	18	11	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	11,000	2.0E+05	2.2E+05	1.7E+05	31,000	15,000	12,000	5.3E+05	1.3E+06	21,000	22,000	56,000	61,000	1,000	1.9E+05
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Location and Screen Interval	Sample Collection Date	Approx. Depth to Groundwater (ft)																		
GP-01 (26-30')	12/15/2008	25.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<3
GP-02 (20-24')	12/15/2008	23.0	<1	<1	<1	<1	**11**	**17**	**210**	**4**	<1	<5	<1	**2**	<1	**16**	<1	**920**	<1	<1	<1	<3
GP-03 (20-24')	12/15/2008	23.0	<1	<1	**43**	<1	**25**	**2**	**760**	**27**	<1	<5	<1	<1	<1	<1	<1	**510**	<1	<1	<1	<3
GP-04 (25-29')	12/15/2008	23.0	<1	<1	**9**	<1	**18**	**4**	**240**	**22**	<1	<5	<1	<1	<1	<1	<1	**320**	<1	<1	<1	<3
GP-05 (25-29')	12/15/2008	23.0	<1	<1	**23**	<1	**160**	**10**	**510**	**12**	<1	<5	<1	<1	<1	<1	<1	**660**	<1	<1	<1	<3
GP-06 (25-29')	12/15/2008	23.0	**3**	<1	**11**	<1	**84**	**70**	**120**	**1**	<1	<5	<1	<1	<1	**60**	<1	**550**	<1	<1	<1	<3
GP-07 (25-29')	12/16/2008	23.0	<1	<1	**5**	<1	<1	**3**	**4**	<1	<1	<5	<1	<1	<1	**3**	<1	**300**	<1	<1	<1	<3
GP-08 (26-30')	12/16/2008	27.0	<1	<1	<1	<1	**9**	<1	**160**	**11**	<1	**10**	<1	<1	<1	<1	<1	**49**	<1	<1	<1	<3
GP-09 (25-29')	12/16/2008	27.0	<1	<1	<1	<1	**89**	**26**	**9**	**2**	<1	<5	<1	<1	<1	**31**	<1	**540**	<1	<1	<1	<3
GP-10 (20-24')	12/16/2008	19.0	<1	<1	<1	**1**	**3**	**76**	**36**	<1	<1	<5	<1	<1	<1	**34**	**4**	**370**	<1	<1	<1	<3
GP-11 (20-24')	12/16/2008	20.0	<1	**3**	<1	<1	<1	**3**	**15**	<1	**3**	<5	**7**	<1	<1	**4**	<1	**100**	**64**	**35**	<1	<3
GP-12 (20-24')	12/16/2008	19.0	<1	<1	<1	**3**	**3**	**320**	**7**	<1	<1	<5	<1	<1	<1	**390**	<1	**530**	<1	<1	<1	<3
GP-13 (25-29')	12/16/2008	25.0	<1	<1	<1	<1	<1	**6**	**1**	<1	<1	<5	<1	<1	<1	**6**	<1	**210**	<1	<1	<1	<3
GP-14 (25-29')	12/22/2008	24.0	<1	<1	<1	<1	**8**	**31**	<1	<1	<1	<5	<1	**12**	<1	**260**	**1**	**190**	<1	<1	<1	<3
GP-15 (20-24')	12/22/2008	23.0	<1	<1	<1	<1	**31**	**12**	**120**	**3**	<1	<5	<1	**3**	<1	**150**	<1	**450**	<1	<1	<1	<3
GP-16 (25-29')	12/22/2008	24.0	**9**	<1	<1	<1	**30**	**2**	**3**	**1**	**3**	<5	<1	<1	**3**	**16**	**2**	**8**	**4**	**1**	<1	**10**
GP-17 (25-29')	12/22/2008	23.5	<1	<1	<1	<1	**47**	**18**	<1	<1	<1	<5	<1	**1**	<1	**200**	<1	**200**	<1	<1	<1	<3
GP-18 (20-24')	12/22/2008	22.0	<1	<1	<1	<1	<1	<1	**1**	<1	<1	<5	<1	**1**	<1	**3**	<1	**190**	<1	<1	<1	<3
GP-19 (25-29')	12/22/2008	22.0	<1	<1	<1	<1	<1	**11**	<1	<1	<1	<5	<1	<1	<1	**71**	<1	**86**	<1	<1	<1	<3
GP-21 (20-24')	1/14/2009	23.0	<20	<20	<20	<20	**47**	**920**	<20	<20	<20	<5	<20	<20	<20	**8,500**	<20	**1,700**	<20	<20	<20	<60
GP-22 (22-26')	1/14/2009	22.0	<20	<20	<20	<20	**160**	**210**	**160**	<20	<20	<5	<20	<20	<20	**3,500**	<20	**1,600**	<20	<20	<20	<30
GP-22 (41-45')	1/14/2009	22.0	<1	<1	<1	<1	**6**	**10**	**81**	**21**	<1	<5	<1	<1	<1	**38**	<1	**560**	<1	<1	<1	<3
GP-23 (22-26')	1/14/2009	19.0	<1	<1	<1	<1	**32**	<1	**430**	**27**	<1	<5	<1	<1	<1	<1	<1	**300**	<1	<1	<1	<3
GP-23 (31-35')	1/14/2009	19.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
GP-24 (10-14')	1/14/2009	8.0*	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	**48**	<1	<1	<1	<3
GP-25 (25-29')	1/15/2009	22.0	<1	<1	<1	<1	**87**	<1	**170**	**10**	<1	<5	<1	<1	<1	<1	<1	**240**	<1	<1	<1	<3
GP-26 (25-29')	1/15/2009	25.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
GP-27 (25-29')	1/15/2009	24.0	<1	<1	<1	<1	<1	**14**	<1	<1	<1	<5	<1	<1	<1	**120**	<1	**170**	<1	<1	<1	<3
GP-28 (22-26')	1/15/2009	23.0	<1	<1	<1	<1	**23**	**36**	<1	<1	<1	<5	<1	**5**	<1	**540**	<1	**110**	<1	<1	<1	<3
GP-28 (41-45')	1/15/2009	23.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
GP-29 (22-26')	1/15/2009	23.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	**34**	<1	<1	<1	<3

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria, Groundwater/Surface Water Interface (GSI) Criteria and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDEQ Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels ($GW_{VI}SLs$) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA) as of February 1, 2012.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the observed depth to groundwater intersects or 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.

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) The approximate depth to groundwater is taken from soil boring logs. For sample locations with no soil boring log, approximate depth to groundwater is estimated using depth to groundwater data from nearby monitoring well and soil boring locations. Perched water, if present, is designated with a "p".

Table 3
Summary of Detected Volatile Organic Compounds at Source Area Grab Groundwater Sample Locations
Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Benzene[1]	n-Butyl-benzene	Chloroethane	Chloroform	1,1-Dichloro-ethane	1,1-Dichloro-ethene[1]	cis-1,2-Dichloro-ethene	trans-1,2-Dichloro-ethene	Ethyl-benzene[1]	Naphthalene	n-Propyl-benzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Tri-chloroethane	1,1,2-Tri-chloroethane	Trichloro-ethene	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	7.0	70	100	700	520	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	7.0	70	100	700	1,500	230	5.0	1,000	200	5.0	5.0	2,900	2,900	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	NC	NC	NC	130	390	440	330	NC	NC	NC	11	NC	15,000	NC	9.9	NC	NC	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	NC	NC	NC	670	1,600	1,800	1,400	NC	NC	NC	55	NC	63,000	NC	42	NC	NC	50	NC
GSI Criteria	200[2]	NC	1,100[2]	350	740	130	620	1,500[2]	18	11	NC	60[2]	270	89	330[2]	200[2]	17	45	13[2]	41
Groundwater Contact Criteria	11,000	5,900	4.4E+05	1.5E+05	2.4E+06	11,000	2.0E+05	2.2E+05	1.7E+05	31,000	15,000	12,000	5.3E+05	1.3E+06	21,000	22,000	56,000	61,000	1,000	1.9E+05
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Location and Screen Interval	Sample Collection Date	Approx. Depth to Groundwater (ft)																		
NS-01 (20-24')	4/17/2009	20.0	<20	<20	<100	<20	<20	<20	**260**	<20	<20	<100	<20	<20	<20	<20	**830**	<20	<20	<20	<40
NS-02 (20-24')	4/17/2009	19.5	<50	<50	<250	<50	<50	<50	**590**	<50	<50	<250	<50	<50	<50	<50	<50	**1,700**	<50	<50	**430**	<100
NS-03 (16-20')	4/15/2009	16.0	<4.0	<4.0	<20	<4.0	<4.0	<4.0	**23**	<4.0	<4.0	<20	<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	16.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	**9.8**	<1.0	<1.0	<5.0	<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	14.0	<1.0	<1.0	<5.0	<1.0	**1.4**	<1.0	**11**	**1.0**	<1.0	<5.0	<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	14.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	**5.9**	<1.0	<1.0	<5.0	<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	21.0	<200	<200	<1,000	<200	<200	<200	<200	<200	<200	<1,000	<200	<200	<200	<200	<200	**2,900**	<200	<200	<200	<400
NS-06 (22-26')	4/20/2009	21.0	<100	<100	<500	<100	<100	<100	**220**	<100	<100	<500	<100	<100	<100	**100**	<100	**4,500**	<100	<100	<100	<200
NS-07 (20-24')	4/21/2009	22.0	<20	<20	<100	<20	<20	<20	**34**	<20	<20	<100	<20	**30**	<20	<20	<20	**710**	<20	<20	<20	<40
NS-08 (20-24')	4/21/2009	22.0	<20	<20	<100	<20	**21**	<20	**100**	<20	<20	<100	<20	**28**	<20	<20	<20	**960**	<20	<20	**27**	<40
NS-08 (20-24') DUP-09	4/21/2009	22.0	<20	<20	<100	<20	**22**	<20	**100**	<20	<20	<100	<20	**29**	<20	<20	<20	**950**	<20	<20	**30**	<40
NS-09 (20-24')	4/21/2009	21.0	<1.0	<1.0	**5.8**	**1.1**	**46**	<1.0	**110**	**5.0**	<1.0	<5.0	<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	21.0	<10	<10	<50	<10	**26**	<10	**380**	**13**	<10	<50	<10	<10	<10	<10	<10	<10	**17**	<10	**45**	<20
NS-11 (23-28')	9/15/2010	23.75	<10	<10	<50	<10	<10	<10	**13**	<10	<10	<50	<10	<10	<10	**15**	<10	**1,500**	<10	<10	<10	<30
NS-12 (23-28')	9/15/2010	24.0	<10	<10	<50	<10	**31**	**14**	**330**	<10	<10	<50	<10	<10	<10	<10	<10	**720**	<10	<10	**120**	<30
NS-13 (23-28')	9/16/2010	23.5	<10	<10	<50	<10	<10	<10	**71**	<10	<10	<50	<10	<10	<10	**13**	<10	**980**	<10	<10	<10	<30
NS-13 (23-28') DUP-02	9/16/2010	23.5	<1.0	<1.0	<50	<10	<10	<10	**69**	<10	<1.0	<5	<1.0	<1.0	<1.0	**12**	<1.0	**970**	<10	<1.0	<10	<2.0
NS-14 (23-28')	9/17/2010	23.75	<10	<10	<50	<10	**28**	<10	**120**	<10	<10	<50	<10	<10	<10	**280**	<10	**1,300**	<10	<10	<10	<30
NS-15 (22-27')	9/17/2010	22.0	<10	<10	<50	<10	**57**	<10	**1,300**	**62**	<10	<50	<10	<10	<10	<10	<10	**87**	<10	<10	**660**	<30
NS-16 (19-24')	9/17/2010	22.0	<5.0	<5.0	<25	<5.0	**25**	<5.0	**150**	**6.2**	<5.0	<25	<5.0	<5.0	<5.0	<5.0	<5.0	**530**	<5.0	<5.0	**210**	<15
NS-17 (23-28')	9/17/2010	23.75	<1.0	<1.0	**7.0**	<1.0	**19**	<1.0	**2.2**	<1.0	<1.0	<5.0	<1.0	**1.6**	<1.0	**35**	<1.0	**120**	<1.0	<1.0	<1.0	<3.0
SS-1 (24-28')	4/15/2009	23.5	<200	<200	<1,000	<200	<200	<200	<200	<200	<200	<1,000	<200	<200	<200	**1,500**	<200	**1,500**	<200	<200	<200	<400
SS-1 (45-49')	4/15/2009	23.5	<1.0	<1.0	<5.0	<1.0	**2.5**	<1.0	**9.9**	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	**2.7**	<1.0	**5.8**	<1.0	<1.0	<1.0	<2.0
SS-2 (20-24')	4/16/2009	20.5	<100	<100	<500	<100	<100	<100	<100	<100	<100	<500	<100	<100	<100	**2,200**	<100	**1,000**	<100	<100	<100	<200
SS-2 (42-46')	4/16/2009	20.5	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	**4.5**	<1.0	**5.3**	<1.0	<1.0	<1.0	<2.0
SS-3 (20-24')	4/16/2009	19.75	<50	<50	<250	<50	<50	<50	<50	<50	<50	<250	<50	**120**	<50	**600**	<50	**430**	<50	<50	<50	<100
SS-4 (22-24')	4/17/2009	22.0	<100	<100	<500	<100	<100	<100	<100	<100	<100	<500	<100	<100	<100	**2,500**	<100	**1,100**	<100	<100	<100	<200
SS-5 (22-26')	4/17/2009	22.0	<100	<100	<500	<100	<100	<100	<100	<100	<100	<500	<100	<100	<100	**2,200**	<100	**1,300**	<100	<100	<100	<200
SS-6 (23-27')	4/17/2009	23.5	<200	<200	<1,000	<200	<200	<200	<200	<200	<200	<1,000	<200	<200	<200	**2,600**	<200	**1,100**	<200	<200	<200	<400
SS-7 (22-26')	4/20/2009	22.0	<100	<100	<500	<100	<100	<100	<100	<100	<100	<500	<100	<100	<100	**1,300**	<100	**1,400**	<100	<100	<100	<200
SS-8 (23-27')	4/21/2009	23.5	<100	<100	<500	<100	<100	<100	<100	<100	<100	<500	<100	<100	<100	**4,100**	<100	**2,300**	<100	<100	<100	<200

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria, Groundwater/Surface Water Interface (GSI) Criteria and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDEQ Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels ($GW_{VI}SLs$) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA) as of February 1, 2012.

ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed

Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the observed depth to groundwater intersects or 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.

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) The approximate depth to groundwater is taken from soil boring logs. For sample locations with no soil boring log, approximate depth to groundwater is estimated using depth to groundwater data from nearby monitoring well and soil boring locations. Perched water, if present, is designated with a "p".

US EPA ARCHIVE DOCUMENT

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

Analyte	Carbon Disulfide	Dichloro-difluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2,300	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	NC	130	47	390	440	330	NC	11	NC	15,000	NC	9.9	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	NC	670	240	1,600	1,800	1,400	NC	55	NC	63,000	NC	42	50	NC
GSI Criteria	NC	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	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
Sample Location and Screen Interval	Sample Collection Date	Approx. Depth to Groundwater (ft)[3]														
B-01 (26-30')	3/9/2009	16.5	<1.0	<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	16.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.2**	<1.0	<1.0	**6.8**	**5.0**	<3.0
B-02 (22-26')	3/10/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.8**	**27**	<3.0
B-02 (33-37')	3/10/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.0**	**16**	<3.0
B-03 (26-30')	3/9/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.6**	<1.0	<1.0	<1.0	**1.4**	<3.0
B-03 (38-42')	3/9/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.2**	<1.0	<1.0	<1.0	<1.0	<3.0
B-04 (19-23')	3/10/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**12**	<3.0
B-04 (19-23') DUP-01	3/10/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**12**	<3.0
B-04 (29-33')	3/10/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-05 (14-18')	3/10/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**	<3.0
B-05 (22-26')	3/10/2009	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.7**	<3.0
B-06 (44-48')	3/13/2009	23.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**3.5**	<1.0	<1.0	<1.0	<1.0	<3.0
B-07 (44-48')	3/16/2009	24.0	**3.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-08 (44-48')	3/13/2009	24.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-10 (24-28')	4/16/2009	26.0	--	--	<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	26.0	--	--	<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	26.0	--	--	<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	26.0	--	--	<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	28.0	--	--	<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	28.0	--	--	<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	16.0	--	--	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**1,100**	<100	<200
B-14 (36-40')	4/14/2009	16.0	--	--	<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	24.0	--	--	<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	24.0	--	--	<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	26.0	--	--	<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	21.5	--	--	<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	21.5	--	--	<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	5.5 p, 12.0*	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**11**	<2.0
B-19 (29-33')	4/15/2009	5.5 p, 12.0*	--	--	<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 p, 9.5*	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-20 (18-22')	4/15/2009	5.0 p, 9.5*	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-21 (6-10')	4/15/2009	6.0	--	--	**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

Notes:

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3) The approximate depth to groundwater is taken from soil boring logs. For sample locations with no soil boring log, approximate depth to groundwater is estimated using depth to groundwater data from nearby monitoring well and soil boring locations. Perched water, if present, is designated with a "p".

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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Former Tecumseh Products Company Site
Tecumseh, Michigan

Analyte	Carbon Disulfide	Dichloro-difluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
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Residential GWSL for Vapor Intrusion	NC	NC	130	47	390	440	330	NC	11	NC	15,000	NC	9.9	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	NC	670	240	1,600	1,800	1,400	NC	55	NC	63,000	NC	42	50	NC
GSI Criteria	NC	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	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
Sample Location and Screen Interval	Sample Collection Date	Approx. Depth to Groundwater (ft)[3]													
B-21 (13-17')	4/15/2009	6.0	--	--	**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	19.0	--	--	<20	<20	<20	<20	<20	<20	<20	<20	**53**	<20	**190**	<20	<40
B-22 (40-44')	4/14/2009	19.0	--	--	<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	13.0	--	--	<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	13.0	--	--	<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	13.0	--	--	<250	<250	<250	**5,500**	<250	<250	<250	<250	<250	<250	**1,700**	<250	<750
B-23b (14-16')[4]	4/15/2009	14.0	--	--	<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	6.0*	--	--	<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	6.0*	--	--	<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	5.0*	--	--	<20	<20	<20	<20	<20	<20	<20	<20	**29**	<20	**740**	<20	<40
B-24b (5-7') DUP-04	4/16/2009	5.0*	--	--	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**770**	<50	<100
B-25 (7-11')	4/17/2009	8.0 p, 14.0*	--	--	<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	8.0 p, 14.0*	--	--	<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	8.0 p, 14.0*	--	--	<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	15.0	--	--	<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	15.0	--	--	<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	7.0*	--	--	<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	16.0*	--	--	<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 p, 8.0*	--	--	<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 p, 8.0*	--	--	<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	5.0 p, 8.0*	<2.0	<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	6.5*	--	--	**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	6.5*	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.1**
B-30 (30-34') DUP-02	4/14/2009	6.5*	--	--	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
B-31 (10-14')	4/13/2009	7.5 p, 10.0*	--	--	<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	7.5 p, 10.0*	--	--	<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	8.0*	--	--	<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	8.0*	--	--	<100	<100	<100	**1,200**	<100	<100	<100	<100	<100	<100	<100	**360**	<200
B-32b (8.5-10.5')[4]	4/15/2009	8.0*	--	--	<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	3.5 p, 7.0*	--	--	<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	3.5 p, 7.0*	--	--	<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	3.5 p, 7.0*	--	--	<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

Notes:

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ug/L = micrograms per liter

NC = No criteria

-- = Not analyzed/Not recorded

Bold font denotes concentrations detected above laboratory reporting limits

Denotes concentrations above one or more criteria

* An asterisk indicates that the observed depth to groundwater intersects or 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.

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) The approximate depth to groundwater is taken from soil boring logs. For sample locations with no soil boring log, approximate depth to groundwater is estimated using depth to groundwater data from nearby monitoring well and soil boring locations. Perched water, if present, is designated with a "p".

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

US EPA ARCHIVE DOCUMENT

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

Analyte	Carbon Disulfide	Dichloro-difluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Ethylbenzene[1]	Tetra-chloroethene	Toluene[1]	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Vinyl Chloride	Total Xylenes[1]
Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Non-Residential DW Criteria	2,300	4,800	2,500	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
Residential GWSL for Vapor Intrusion	NC	NC	130	47	390	440	330	NC	11	NC	15,000	NC	9.9	5.0	NC
Non-Residential GWSL for Vapor Intrusion	NC	NC	670	240	1,600	1,800	1,400	NC	55	NC	63,000	NC	42	50	NC
GSI Criteria	NC	NC	740	360[2]	130	620	1,500[2]	18	60[2]	270	89	330[2]	200[2]	13[2]	41
Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	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
Sample Location and Screen Interval	Sample Collection Date	Approx. Depth to Groundwater (ft)[3]													
B-33b [4]	11/24/2009	3.5 p, 7.0*	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.7**	<1.0	<3.0
B-34 (14-18')	4/20/2009	12.5	--	--	<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	12.5	--	--	<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	6.0 p, 13.0	--	--	<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	6.0 p, 13.0	--	--	<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	6.0 p, 13.0	<1.0	<1.0	**1.1**	<1.0	<1.0	**69**	**5.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-35 (30-34')	4/20/2009	6.0 p, 13.0	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**450**	<20
B-36 (12-16')	5/13/2009	6.0 p, 12.0*	<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	6.0 p, 12.0*	<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	6.0 p, 12.0*	<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	<3.0
B-37 (38.5-42.5')	5/12/2009	6.0 p, 12.5	<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	<3.0
B-38 (15-19')	5/13/2009	6.0 p, 16.0	<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	<3.0
B-38 (36-40')	5/13/2009	6.0 p, 16.0	<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	6.0 p, 16.0	<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	5.5 p, 16.0	<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	5.5 p, 16.0	<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	10.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-45 (14-16')	2/22/2011	10.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**33**	<3.0
B-45 (22-24')	2/22/2011	10.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	<3.0
B-46 (8-10')	2/22/2011	8.0*	<1.0	<1.0	<1.0	<1.0	<1.0	**8.2**	**1.2**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-46 (14-16')	2/22/2011	8.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.1**	<3.0
B-46 (21-23')	2/22/2011	8.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.9**	<3.0
B-47 (7.75-9.75')	2/22/2011	7.75*	<1.0	<1.0	**15**	<1.0	**1.1**	**73**	**6.7**	<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	7.75*	<1.0	<1.0	**14**	<1.0	<1.0	**71**	**6.9**	<1.0	<1.0	<1.0	<1.0	**6.8**	**97**	<1.0	<3.0
B-47 (14-16')	2/22/2011	7.75*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**23**	<3.0
B-47 (21-23')	2/22/2011	7.75*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**28**	<3.0
B-48 (7-9')	2/22/2011	7.0*	<1.0	<1.0	**6.2**	<1.0	<1.0	**34**	**2.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-48 (13-15')	2/22/2011	7.0*	<1.0	<1.0	**16**	<1.0	**2.1**	**110**	**11**	<1.0	<1.0	<1.0	<1.0	<1.0	**32**	<3.0
B-48 (19.5-21.5')	2/22/2011	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**47**	<3.0
B-49 (13-15')	2/22/2011	7.0*	<5.0	<5.0	**8.2**	<5.0	<5.0	**33**	<5.0	<5.0	<5.0	**9.0**	<5.0	**760**	<5.0	<15
B-49 (19.5-21.5')	2/22/2011	7.0*	<10	<10	<10	<10	<10	**31**	<10	<10	<10	**49**	<10	**1,600**	<10	<30
B-50 (7-9')	2/23/2011	7.0*	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**33**	<5.0	**710**	<5.0	<15

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Residential DW Criteria	800	1,700	880	5.0	7.0	70	100	700	5.0	1,000	200	5.0	5.0	2.0	10,000
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Groundwater Contact Criteria	1.2E+06	3.0E+05	2.4E+06	19,000	11,000	2.0E+05	2.2E+05	1.7E+05	12,000	5.3E+05	1.3E+06	21,000	22,000	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
Sample Location and Screen Interval	Sample Collection Date	Approx. Depth to Groundwater (ft)[3]														
B-50 (13-15')	2/23/2011	7.0*	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	**100**	<50	**5,400**	<50	<150
B-50 (20-22')	2/23/2011	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	**6.5**	<3.0
B-50 (20-22') DUP-02	2/23/2011	7.0*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.3**	**7.0**	<3.0
B-51 (7-9')	2/23/2011	7.0*	<5.0	<5.0	<5.0	<5.0	<5.0	**13**	<5.0	<5.0	<5.0	<5.0	**25**	<5.0	**580**	<5.0	<15
B-51 (13-15')	2/23/2011	7.0*	<10	<10	**36**	<10	**140**	**87**	<10	<10	<10	<10	**260**	<10	**1,600**	<10	<30
B-51 (20-22')	2/23/2011	7.0*	<10	<10	<10	<10	<10	**23**	**24**	<10	<10	<10	<10	<10	**970**	**62**	<30
B-52 (7-9')	2/23/2011	7.0*	<500	<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	7.0*	<10	<10	**57**	<10	<10	**71**	<10	**430**	<10	**120**	<10	<10	**30**	**270**	**1,326**
B-52 (20-22')	2/23/2011	7.0*	<5.0	<5.0	<5.0	<5.0	<5.0	**140**	**16**	<5.0	<5.0	<5.0	<5.0	<5.0	**440**	<5.0	<15
B-53 (18-20')	2/23/2011	17.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**120**	<1.0	<3.0
B-53 (24-26')	2/23/2011	17.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-54 (18-20')	2/23/2011	18.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.2**	<1.0	<3.0
B-54 (26-28')	2/23/2011	18.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
B-58 (7-12')	4/1/2011	7.0*	--	--	--	--	--	--	--	**620**	--	**16**	--	--	--	--	**5,300**
B-59 (7-12')	4/1/2011	7.25*	--	--	--	--	--	--	--	**2,500**	--	**41,000**	--	--	--	--	**24,000**
B-60 (7-12')	4/1/2011	7.25*	--	--	--	--	--	--	--	**4,700**	--	**55,000**	--	--	--	--	**48,000**
B-61 (7-12')	4/1/2011	7.0*	--	--	--	--	--	--	--	**5,200**	--	**61,000**	--	--	--	--	**41,000**
B-62 (7-12')	4/1/2011	7.0*	--	--	--	--	--	--	--	**1.4**	--	<1.0	--	--	--	--	<3.0
B-63 (7-12')	4/1/2011	7.0*	--	--	--	--	--	--	--	**3,800**	--	**21,000**	--	--	--	--	**30,000**
B-63 (7-12') DUP-01	4/1/2011	7.0*	--	--	--	--	--	--	--	**3,800**	--	**21,000**	--	--	--	--	**31,000**
B-64 (7-12')	4/1/2011	7.25*	--	--	--	--	--	--	--	**9,300**	--	**18,000**	--	--	--	--	**59,000**
B-65 (7-12')	4/1/2011	7.0*	--	--	--	--	--	--	--	**3,200**	--	**90**	--	--	--	--	**23,000**
B-66 (7-12')	4/1/2011	7.0*	--	--	--	--	--	--	--	**2,500**	--	<50	--	--	--	--	**28,000**
B-67 (7-12')	4/1/2011	7.0*	--	--	--	--	--	--	--	**140**	--	<5.0	--	--	--	--	**1,300**
MW-25 (46-51')	12/1/2009	19.0	<1.0	<5.0	<1.0	<1.0	<1.0	**37**	**1.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0

Notes:

Health-Based Residential and Non-Residential Drinking Water (DW) Criteria, Groundwater/Surface Water Interface (GSI) Criteria and Groundwater Contact Criteria from MDEQ RRD Op Memo 1 Part 201 Generic Cleanup Criteria/Part 213 Risk Based Cleanup Levels, March 25, 2011. Groundwater Screening Levels (GWSLs) for Vapor Intrusion were calculated in accordance with the MDEQ Remediation and Redevelopment Division Program Redesign 2009 document titled Background Document: Draft Proposed Vapor Intrusion Indoor Air Criteria (IAC), Soil Gas Criteria (SGC), and Groundwater Screening Levels ($GW_{VI}SLs$) for Vapor Intrusion using both residential and non-residential exposure scenarios and the most recent chemical specific toxicity values accepted and/or published by the United States Environmental Protection Agency (USEPA) as of February 1, 2012.

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 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) The approximate depth to groundwater is taken from soil boring logs. For sample locations with no soil boring log, approximate depth to groundwater is estimated using depth to groundwater data from nearby monitoring well and soil boring locations. Perched water, if present, is designated with a "p".

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

Table 5
Summary of Chlorinated Volatile Organic Compounds at Surface Water Sample Locations
Tecumseh Products Company
Tecumseh, Michigan

Analyte		1,1-Dichloroethane	1,2-Dicholorethane	1,1-Dichloroethene[1]	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride
HNV Non-Drink		62,000	420,000	33,000	36,000	19,000	1,800	42,000	550	4,400
HCV- Non-Drink		NC	360	NC	NC	NC	60	NC	370	13
Residential DW Criteria		880	5.0	7.0	70	100	5.0	200	5.0	2.0
Non-Residential DW Criteria		2,500	5.0	7.0	70	100	5.0	200	5.0	2.0
GSI Criteria		740	360[2]	130	620	1,500[2]	60[2]	89	200[2]	13[2]
Groundwater Contact Criteria		2,400,000	19,000	11,000	200,000	220,000	12,000	1,300,000	22,000	1,000
Units		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
SEEP	4/3/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
WL-01	4/6/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	6/18/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	9/8/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	12/10/2010[3]	--	--	--	--	--	--	--	--	--
	2/25/2011[3]	--	--	--	--	--	--	--	--	--
	5/11/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1/5/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	4/2/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

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

ug/L = micrograms per liter

NC = No criteria

-- = No data

Bold font denotes concentrations detected above laboratory reporting limits

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) Frozen, no sample collected.

US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

Attachment 3

Soil Boring Logs and Well Construction Forms

US EPA ARCHIVE DOCUMENT

Monitoring Well Locations

Soil boring logs and well construction forms are attached for each of the 41 monitoring wells installed between March 2009 and September 2010.

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-1s/B-1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/12/09	3/12/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	24.0	2-8

Boring Location: On TPC property, 10 feet south of B-1, about 600 feet west of Maumee Street and 1400 feet south of Patterson Street

Personnel: Logged By - Scott Middlebrook; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/12/09 00:00 ▽ Depth (ft bgs) 16.5
After Drilling: Date/Time 3/12/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ROAD GRAVEL** dry.	GP			
				SAND mostly medium sand, some fine sand, little silt, trace coarse sand and gravel, dark brown (7.5YR 3/2), dry, dense.	SW			
1 GP	79		2	**SANDY CLAY** mostly clay, some medium sand, little silt, few coarse sand, trace gravel, low plasticity, strong brown (7.5YR 4/6), dry, stiff. Coarse sand content increases with depth.	CL			
			4	**SAND** mostly coarse sand, some medium sand, little fine sand, trace clay, pale brown (10YR 6/3), dry, loose.				
2 GP	77		6	Change to no clay at 6.0 feet.				
			8		SW			
				Change to mostly medium sand, some coarse sand at 8.5 feet.				
3 GP	67		10					
			12	**SAND** mostly medium sand, some fine sand, trace coarse sand, pale brown (10YR 6/3), dry, loose.				
4 GP	73		14		SP			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-1s/B-1

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18	▽ **SAND** mostly medium sand, some fine sand, few coarse sand, trace gravel, brown (7.5YR 4/2), saturated, loose.	SP			
5 GP	69		20	Change to trace coarse sand, no gravel at 20.5 feet.	SW			
6 GP	98		22					
			24	Blind drill to 50.0 feet.				
			26					Groundwater sample collected at 26-30 feet.
			28					
			30					
			32					
			34					
			36					

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-1s/B-1

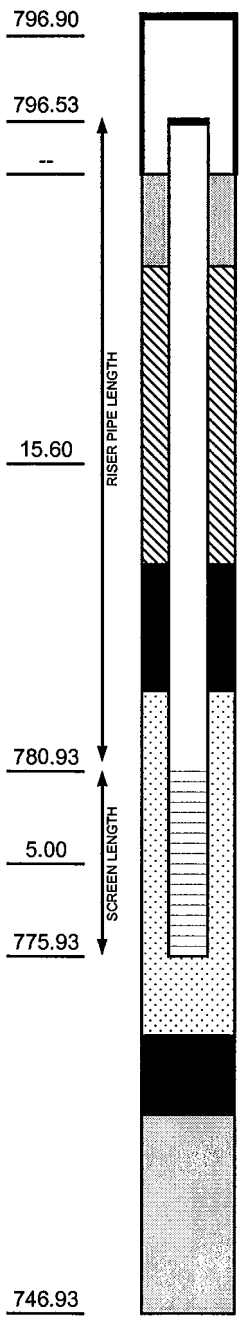
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					
			46					Groundwater sample collected at 46-50 feet.
			48					
			50	End of boring at 50.0 feet below ground surface.				
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-1S
PROJ. NO:	8070.02	DATE INSTALLED:	3/12/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



796.90	0.0 GROUND SURFACE
796.53	0.4 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
15.60	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	15.0 BENTONITE SEAL
780.93	16.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
775.93	21.0 BOTTOM OF SCREEN
	21.5 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
746.93	50.0 HOLE BOTTOM

NOTES:

5.0 GALLONS OF WATER ADDED TO SET WELL.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:

8.0	IN. FROM	0.0	TO	21.5	FT.
2.0	IN. FROM	21.5	TO	24.0	FT.
1.0	IN. FROM	24.0	TO	50.0	FT.
NA	IN. FROM	NA	TO	NA	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 25 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	20.80	T/PVC	3/12/2009	1804
DTB AFTER DEVELOPING:	20.80	T/PVC	3/12/2009	1835
SWE BEFORE DEVELOPING:	16.09	T/PVC	3/12/2009	1804
SWE AFTER DEVELOPING:	16.11	T/PVC	3/12/2009	1835
OTHER SWE: DURING DEVEL.	16.20	T/PVC	3/12/2009	1818
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-2s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/12/09	3/12/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	28.0	2-8

Boring Location: At the corner of Ottawa Street and Patterson Street, 25 feet east of flagpole, 20 feet south of Patterson Street curb

Personnel
Logged By - Scott Middlebrook
Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/12/09 00:00 ▽ Depth (ft bgs) 23
After Drilling: Date/Time 3/12/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 HA	100			**TOPSOIL** black (10YR 2/1), moist, soft.				
2 GP	39		2	**SILTY CLAY** mostly clay, some silt, few medium sand, trace coarse sand, high plasticity, dark yellowish brown (10YR 3/4), wet, soft.	CL-ML			
			4	**SILTY CLAY WITH SAND** mostly clay, some silt, little coarse sand, few medium sand, trace gravel, high plasticity, very dark grayish brown (10YR 3/2), moist, stiff.	CL-ML			
3 GP	71		6	**SAND** mostly coarse sand, some medium sand, few fine sand, trace silt, trace gravel, trace cobbles, dark yellowish brown (10YR 4/6), dry, loose.	SW			
			8					
4 GP	63		10	**SAND** mostly medium sand, little coarse sand, trace silt, trace large gravel, brown (10YR 5/3) to strong brown (7.5YR 5/8), dry, loose.				
			12		SP			
5 GP	65		14	Coarse sand content increases with depth.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-2s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			16	Change to some coarse sand, little fine sand, pale brown (10YR 6/3) at 16.0 feet.	SP			
6 GP	65		18	**SAND** mostly medium sand, some fine sand, few coarse sand, trace coarse sand, trace gravel, brown (7.5YR 4/2), saturated, loose.				
			20	Same as above.				
7 GP	63		22		SW			
				Change to strong brown (7.5YR 5/6) at 22.5 feet.				
				Change to brown (10YR 4/3), saturated at 23.0 feet.				
			24	Same as above.				
8 GP	79		26					
			28	Blind drill to 29.0 feet during well installation.				
				End of boring at 29.0 feet below ground surface.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-2S
PROJ. NO:	8070.02	DATE INSTALLED:	3/12/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
802.40	0.0	GROUND SURFACE
802.14	0.3	TOP OF CASING
--	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
22.70	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.0	BENTONITE SEAL
779.44	23.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
774.44	28.0	BOTTOM OF SCREEN
	29.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: --
773.44	29.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 29.0 FT.
NA IN. FROM NA TO NA FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 25 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	27.52	T/PVC	3/13/2009	1358
DTB AFTER DEVELOPING:	27.54	T/PVC	3/13/2009	1428
SWE BEFORE DEVELOPING:	22.15	T/PVC	3/13/2009	1358
SWE AFTER DEVELOPING:	22.15	T/PVC	3/13/2009	1428
OTHER SWE: DURING DEVEL.	22.27	T/PVC	3/13/2009	1419
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-3s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/11/09	3/11/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	16.0	2-8

Boring Location: On TPC property, on southwest corner of Patterson Street and Maumee Street

Personnel: Logged By - Scott Middlebrook; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/11/09 00:00 ▽ Depth (ft bgs) 6
After Drilling: Date/Time 3/11/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ROAD GRAVEL** light gray (10YR 7/1), wet.	GP			
				FILL asphalt.				
1 GP	60		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, trace gravel, trace roots, low plasticity, brown (10YR 5/4), wet, soft.	CL-ML			
				SANDY CLAY mostly clay, some medium sand, little silt, low plasticity, yellowish brown (10YR 5/4), wet, stiff.				
2 GP	65		4		CL			
			6 ▽	**SAND** mostly medium sand, some fine sand, little silt, dark grayish brown (10YR 4/2), saturated, loose.	SP			
				SILTY CLAY mostly clay, some silt, trace medium sand, high plasticity, dark yellowish brown (10YR 4/6), moist, stiff.	CL-ML			
			8	**SAND** mostly coarse sand, some medium sand, little gravel, trace silt, strong brown (7.5YR 5/6) and light brown (7.5YR 6/3), dry, loose.	SW			
3 GP	71			**SAND** mostly medium sand, some coarse sand, little fine sand, brown (7.5YR 4/2), saturated, loose.				
			10					
			12	Same as above.	SW			Poor recovery due to crushed liner at 12.0 feet.
4 GP	38		14					
			16	End of boring at 16.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

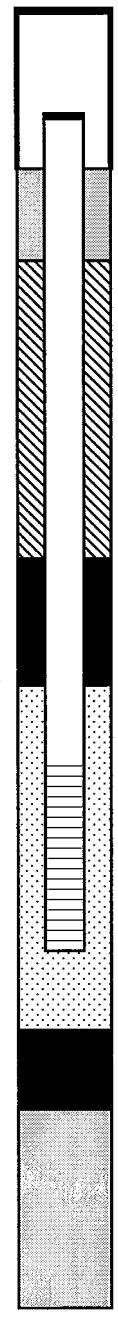
Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-3S
PROJ. NO:	8070.02	DATE INSTALLED:	3/11/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



787.60	0.0 GROUND SURFACE
787.00	0.6 TOP OF CASING
--	
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
8.40	
	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	7.0 BENTONITE SEAL
778.60	9.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
773.60	14.0 BOTTOM OF SCREEN
	14.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
771.60	16.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 14.0 FT.
2.0 IN. FROM 14.0 TO 16.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 25 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	13.49	T/PVC	3/11/2009	1750
DTB AFTER DEVELOPING:	13.49	T/PVC	3/11/2009	1820
SWE BEFORE DEVELOPING:	7.75	T/PVC	3/11/2009	1750
SWE AFTER DEVELOPING:	7.76	T/PVC	3/11/2009	1820
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-4s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/11/09	3/11/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	20.0	2-8

Boring Location:	Personnel	Drilling Equipment:
On TPC property, south of Patterson Street, about 400 feet west of Maumee Street	Logged By - Scott Middlebrook Driller - Craig Tanicala	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 3/11/09 00:00 ▽ Depth (ft bgs) 15 After Drilling: Date/Time 3/11/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ROAD GRAVEL**				
1 GP	25		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, few coarse sand, trace gravel, medium plasticity, strong brown (7.5YR 5/6), dry, stiff.	CL-ML			
			4	**CRUSHED WHITE COBBLE**				
2 GP	29		6	**SAND** mostly medium sand, some coarse sand, little fine sand, few gravel, pale brown (10YR 6/3) to brown (10YR 5/3), dry, loose.				
			8	Same as above.				
3 GP	73		10					
			12	Same as above, trace gravel.	SW			
4 GP	69		14	Change to brownish yellow (10YR 6/8) at 14.0 feet.				
			▽	Change to very dark grayish brown (10YR 3/2), saturated at 15.0 feet.				
			16	Change to mostly coarse sand, some medium sand, no fine sand, brown (10YR 5/3) to grayish brown (10YR 5/2) at 16.0 feet.				
5 GP	75		18					
			20	End of boring at 20.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-4S
PROJ. NO:	8070.02	DATE INSTALLED:	3/11/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
794.70	0.0 GROUND SURFACE
794.42	0.3 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
14.70	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	13.5 BENTONITE SEAL
779.72	15.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
774.72	20.0 BOTTOM OF SCREEN
	20.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: --
774.72	20.0 HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

5 GALLONS OF WATER ADDED TO SET WELL.
LOTS OF FINE SANDS WHILE DEVEOPLING.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 20.0 FT.
NA IN. FROM NA TO NA FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 20 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: CLOUDY

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	20.03	T/PVC	3/12/2009	1011
DTB AFTER DEVELOPING:	20.03	T/PVC	3/12/2009	1040
SWE BEFORE DEVELOPING:	15.06	T/PVC	3/12/2009	1011
SWE AFTER DEVELOPING:	15.06	T/PVC	3/12/2009	1040
OTHER SWE: DURING DEVEL.	15.19	T/PVC	3/12/2009	1026
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-5s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/11/09	3/11/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	32.0	2-8

Boring Location:	Personnel	Drilling Equipment:
On TPC property, east of Evans Street, about 1300 feet south of Patterson Street	Logged By - Scott Middlebrook Driller - Craig Tanicala	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 3/11/09 00:00 ▽ Depth (ft bgs) 25 After Drilling: Date/Time 3/11/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL** very dark gray (10YR 3/1), moist.				
1 GP	63		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, few coarse sand, trace gravel, medium plasticity, strong brown (7.5YR 4/6), moist, stiff.	CL-ML			Pieces of steel and clay tile came up with augers while drilling well.
				SAND mostly coarse sand, some medium sand, little silt, trace gravel, pale brown (10YR 6/3), dry, dense.	SP			
			4	Crushed cobble at 3.8 feet.				
2 GP	54			**SAND** mostly coarse sand, little medium sand, trace fine sand, trace gravel, yellowish brown (10YR 5/4) to pale brown (10YR 6/3), dry, dense.				
			6					
			8	Same as above, few to little gravel at 8.0 feet.	SW			
3 GP	56		10					
			12	**SAND** mostly medium sand, some fine sand, trace coarse sand, pale brown (10YR 6/3), dry, dense.				
4 GP	65		14		SP			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

WELL NO. MW-5s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
5 GP	71		18	Change to few to little coarse sand, trace gravel at 17.0 feet.				
			20	Change to trace coarse sand at 20.0 feet.	SP			
6 GP	63		22					
			24	▽				
7 GP	67		26	**SAND** mostly medium sand, some coarse sand, little fine sand, trace gravel, very dark grayish brown (10YR 3/2), saturated, dense.				
			28	Same as above.	SW			
8 GP	73		30					
			32	End of boring at 32.0 feet below ground surface.				
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-5S
PROJ. NO:	8070.02	DATE INSTALLED:	3/11/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
805.70	0.0	GROUND SURFACE
805.59	0.1	TOP OF CASING
--	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
24.90	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	23.5	BENTONITE SEAL
780.69	25.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
775.69	30.0	BOTTOM OF SCREEN
	30.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
773.69	32.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

LOTS OF FNE SANDS WILE DEVELOPING.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 30.0 FT.
2.0 IN. FROM 30.0 TO 32.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 20 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	30.14	T/PVC	3/12/2009	1716
DTB AFTER DEVELOPING:	30.29	T/PVC	3/12/2009	1742
SWE BEFORE DEVELOPING:	25.00	T/PVC	3/12/2009	1716
SWE AFTER DEVELOPING:	25.01	T/PVC	3/12/2009	1742
OTHER SWE: DURING DEVEL.	25.10	T/PVC	3/12/2009	1726
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-6s/B-6

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	3/13/09	3/13/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	28.0	2-8

Boring Location: On TPC property, on southeast of corner of Evans Street and Patterson Street in parking lot

Personnel: Logged By - Scott Middlebrook; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/13/09 00:00 ▽ Depth (ft bgs) 23.5
After Drilling: Date/Time 3/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ASPHALT**				
				ROAD GRAVEL				
1 GP	56		2	**SANDY CLAY** mostly clay, some coarse sand, little medium sand, few silt, trace gravel, medium plasticity, very dark brown (7.5YR 2.5/2), wet, stiff. Change to strong brown (7.5YR 5/6), clay content decreases and coarse sand content increases with depth.	CL			
			4	**SAND** mostly coarse sand, some medium sand, little fine sand, few gravel, brown (7.5YR 5/3), dry, loose.				
2 GP	63		6	Change to trace clay, trace silt, dark yellowish brown (10YR 4/4) at 5.5 feet.				
			8	Change to few to little gravel, trace crushed cobble at 8.0 feet.	SW			
3 GP	54		10					
			12					
				SAND mostly medium sand, some coarse sand, little fine sand, yellowish brown (10YR 5/4), moist, dense.				
4 GP	58		14		SW			
				SAND mostly coarse sand, some medium sand, few fine	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
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WELL CONSTRUCTION LOG

RMT

WELL NO. MW-6s/B-6

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				sand, trace gravel, brown (10YR 5/3), moist, loose.				
5 GP	60		18	Change to mostly medium sand, little coarse sand, dense at 18.0 feet.	SW			
			20	**SAND** mostly coarse sand, some medium sand, little fine sand, few silt, trace gravel, brown (10YR 5/3), moist, dense.				
6 GP	63		22	Change to yellowish brown (10YR 5/8) 21.5 feet.	SW			
				▽ Change to no silt, brown (7.5YR 5/3) at 23.0 feet.				
			24	**SAND** mostly medium sand, some coarse sand, little fine sand, dark grayish brown (10YR 4/2), saturated, loose.				
7 GP	73		26	Coarse sand content decreases with depth.	SW			
			28	Blind drill to 48.0 feet.				
			30					
			32					
			34					
			36					

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-6s/B-6

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					Groundwater sample collected at 44-48 feet.
			46					
			48	End of boring at 48.0 feet below ground surface.				
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	**MW-6S**
PROJ. NO:	8070.02	DATE INSTALLED:	3/13/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
804.30	0.0	GROUND SURFACE
803.73	0.6	TOP OF CASING
--	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
23.40	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.5	BENTONITE SEAL
780.33	24.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
775.33	29.0	BOTTOM OF SCREEN
	29.5	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
756.33	48.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 29.5 FT.
1.0 IN. FROM 29.5 TO 48.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 30 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	28.49	T/PVC	3/16/2009	1314
DTB AFTER DEVELOPING:	28.49	T/PVC	3/16/2009	1354
SWE BEFORE DEVELOPING:	23.29	T/PVC	3/16/2009	1314
SWE AFTER DEVELOPING:	23.30	T/PVC	3/16/2009	1354
OTHER SWE: DURING DEVEL.	23.34	T/PVC	3/16/2009	1340
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-7s/B-7

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	3/16/09	3/16/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	28.0	2-8

Boring Location: On TPC property, east of Evans Street, about 300 feet south of Patterson Street

Personnel
Logged By - Scott Middlebrook
Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/16/09 00:00 ▽ Depth (ft bgs) 24
After Drilling: Date/Time 3/16/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ASPHALT, ROAD GRAVEL**		///		
				SAND mostly medium sand, little coarse sand, few clay, trace gravel, very dark brown (7.5YR 2.5/2), moist, dense.	SP			
1 GP	50		2	**SILTY CLAY** mostly clay, some silt, few medium sand, trace coarse sand, trace gravel, medium plasticity, strong brown (7.5YR 5/8), wet, soft. Coarse sand and gravel content increases with depth.	CL-ML			
2 GP	67		4	**SAND** mostly coarse sand, some medium sand, few gravel, little fine sand, yellowish brown (10YR 5/4) grading to pale brown (10YR 6/3), dry to moist, loose to dense.	SW			
3 GP	38		8	**SAND** mostly medium sand, some coarse sand, trace gravel, pale brown (10YR 6/3), dry, loose.				
4 GP	54		12	Change to little to some coarse sand, crushed cobble at 12.0 feet.	SP			
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
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WELL CONSTRUCTION LOG

RMT

WELL NO. MW-7s/B-7

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
5 GP	67		18	Same as above, no gravel at 16.0 feet.	SP			
			20					
6 GP	65		22	**SAND** mostly coarse sand, some medium sand, little fine sand, few gravel, pale brown (10YR 6/3) grading to yellowish brown (10YR 5/8), dry, dense.	SW			
				Change to pale brown (10YR 6/3), wet at 23.0 feet.				
			24 ▽	**SAND** mostly medium sand, some coarse sand, little fine sand, grayish brown (10YR 5/3), saturated, loose.				
7 GP	69		26		SW			
			28	Blind drill to 48.0 feet.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-7s/B-7

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					Groundwater sample collected at 44-48 feet.
			46					
			48	End of boring at 48.0 feet below ground surface.				
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-7S
PROJ. NO:	8070.02	DATE INSTALLED:	3/16/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
805.10	0.0 GROUND SURFACE
804.40	0.7 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
22.80	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.5 BENTONITE SEAL
781.60	23.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
776.60	28.5 BOTTOM OF SCREEN
	29.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
757.10	48.0 HOLE BOTTOM

RISER PIPE LENGTH: 22.80

SCREEN LENGTH: 5.00

NOTES:

SLIGHT SHEEN IN BUCKET DURING DEVELOPMENT.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 29.0 FT.
1.0 IN. FROM 29.0 TO 48.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 30 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	28.58	T/PVC	3/16/2009	1423
DTB AFTER DEVELOPING:	28.58	T/PVC	3/16/2009	1456
SWE BEFORE DEVELOPING:	23.86	T/PVC	3/16/2009	1423
SWE AFTER DEVELOPING:	23.84	T/PVC	3/16/2009	1456
OTHER SWE: DURING DEVEL.	23.92	T/PVC	3/16/2009	1451
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-8s/B-8

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/13/09	3/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	28.0	2-8

Boring Location: On TPC property, east of Evans Street, about 700 feet south of Patterson Street

Personnel: Logged By - Scott Middlebrook; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/13/09 00:00 ▽ Depth (ft bgs) 24
After Drilling: Date/Time 3/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ASPHALT**				
				ROAD GRAVEL				
				TOPSOIL roots present.				
1 GP	65		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, trace coarse sand, trace gravel, medium plasticity, dark brown (7.5YR 3/2) grades to strong brown (7.5YR 5/6), wet, soft.	CL-ML			
			4					
2 GP	54		6	**SAND** mostly coarse sand, some medium sand, few fine sand, few gravel, brown (10YR 5/3) grading to pale brown (10YR 6/3), dry to moist, loose.	SW			
			8					
3 GP	63		10	**SAND** mostly medium sand, some fine sand, trace coarse sand, dark yellowish brown (10YR 4/4), moist, loose.	SP			
			12					
4 GP	63		14	**SAND** mostly coarse sand, some medium sand, few fine sand, trace gravel, dark yellowish brown (10YR 5/4), dry, loose.	SW			
				SAND mostly medium sand, little fine sand, trace coarse	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-8s/B-8

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
5 GP	67		18	sand, trace gravel, dark yellowish brown (10YR 5/4), moist, loose.				
			20	Same as above.				
6 GP	65		22		SW			
			24	▽ Change to wet at 23.5 feet. Change to saturated at 24.0 feet.				
7 GP	44		26	Crushed cobble at 26.0 feet.				
			28	Blind drill to 48.0 feet.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-8s/B-8

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					Groundwater sample collected at 44-48 feet.
			46					
			48	End of boring at 48.0 feet below ground surface.				
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-8S
PROJ. NO:	8070.02	DATE INSTALLED:	3/13/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
804.60	0.0 GROUND SURFACE
804.39	0.2 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
23.30	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.0 BENTONITE SEAL
781.09	23.5 TOP OF SCREEN
5.00	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
776.09	28.5 BOTTOM OF SCREEN
	29.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
756.59	48.0 HOLE BOTTOM

RISER PIPE LENGTH: 23.30
SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC
PIPE SCHEDULE: 40
PIPE JOINTS: THREADED O-RINGS
SOLVENT USED? NO
SCREEN TYPE: 2-INCH PVC
SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 29.0 FT.
1.0 IN. FROM 29.0 TO 48.0 FT.
SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP
TIME DEVELOPING: 25 MINUTES
WATER REMOVED: 25 GALLONS
WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID
COLOR BEFORE: LIGHT BROWN
CLARITY AFTER: CLEAR
COLOR AFTER: CLEAR
ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	28.13	T/PVC	3/16/2009	1209
DTB AFTER DEVELOPING:	27.17	T/PVC	3/16/2009	1246
SWE BEFORE DEVELOPING:	23.70	T/PVC	3/16/2009	1209
SWE AFTER DEVELOPING:	23.70	T/PVC	3/16/2009	1246
OTHER SWE: DURING DEVEL.	23.81	T/PVC	3/16/2009	1232
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO
PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO
LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-9s

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	3/16/09	3/16/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	12.0	2-8

Boring Location: Along eastern side of TPC facility property, about 1000 feet south of corner of Patterson Street and Maumee Street

Personnel
Logged By - Scott Middlebrook
Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/16/09 00:00 ▽ Depth (ft bgs) 7
After Drilling: Date/Time 3/16/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	79		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, few coarse sand, trace gravel, low plasticity, brown (7.5YR 4/2), moist, stiff. Change to few to little coarse sand, nonplastic, gray (7.5YR 6/1).	CL			
				Change to brown (7.5YR 4/3) at 3.5 feet.				
			4	**SAND** mostly coarse sand, some medium sand, little fine sand, trace clay, trace gravel, brown (7.5YR 4/4), wet, loose.	SW			
2 GP	85		6	**SILTY CLAY** mostly clay, some silt, trace coarse sand, medium plasticity, dark yellowish brown (10YR 4/6), dry, very stiff.	CL-ML			
				▽ **SAND** mostly medium sand, some coarse sand, little fine sand, brown (7.5YR 4/2), saturated, loose.				
3 GP	96		8		SP			
			10					
			12	Blind drill to 12.5 feet during well installation.				
				End of boring at 12.5 feet below ground surface.				
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-9S
PROJ. NO:	8070.02	DATE INSTALLED:	3/16/2009 INSTALLED BY: Scot Middlebrook		CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
784.50	0.0 GROUND SURFACE
783.97	0.5 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
6.50	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	6.0 BENTONITE SEAL
777.47	7.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
772.47	12.0 BOTTOM OF SCREEN
	12.5 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: --
771.97	12.5 HOLE BOTTOM

RISER PIPE LENGTH: 6.50

SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 12.5 FT.
NA IN. FROM NA TO NA FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 30 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	11.78	T/PVC	3/16/2009	1638
DTB AFTER DEVELOPING:	11.78	T/PVC	3/16/2009	1710
SWE BEFORE DEVELOPING:	4.40	T/PVC	3/16/2009	1638
SWE AFTER DEVELOPING:	4.40	T/PVC	3/16/2009	1710
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-10s/B-20

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	4/15/09	4/15/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	16.0	2-8

Boring Location: On TPC property about 700 feet east of the corner of Patterson Street and Maumee Street

Personnel: Logged By - Scott Middlebrook; Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/15/09 00:00 ▽ Depth (ft bgs) 5
After Drilling: Date/Time 4/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 GP	48		0	**TOPSOIL**				
				SILTY CLAY WITH SAND some silt, little coarse sand, few medium sand, low to medium plasticity, strong brown (7.5YR 5/6), moist, very stiff.	CL-ML			
			2	**SAND** mostly medium to coarse sand, wet.	SP			
				SILTY CLAY WITH SAND some silt, little coarse sand, few medium sand, low to medium plasticity, strong brown (7.5YR 5/6), moist, very stiff.	CL-ML			
2 GP	75		4	**SAND** mostly medium to coarse sand, wet. ▽	SP			
				SANDY CLAY mostly clay, some silt, little coarse sand, trace medium sand, medium to low plasticity, strong brown (7.5YR 5/6), moist, very stiff.	CL			
			6	**SAND** mostly coarse sand, some medium sand, little fine sand, brown (7.5YR 4/3), saturated, loose.	SW			
				CLAY mostly clay, little silt, low plasticity, brown (7.5YR 5/3) grading to greenish gray (GLEY1 5/1), dry, hard.	CL			
3 GP	88		8	**SAND WITH SILT** mostly medium sand, some fine sand, little silt, greenish gray (GLEY1 5/1), saturated, dense.	SW-SC			Groundwater sample collected at 8-12 feet.
				SAND mostly medium sand, little fine sand, light greenish gray (GLEY1 7/1), saturated, medium dense.	SP			
			10					
4 GP	85		12	**SAND** mostly medium sand, little fine sand, trace to few coarse sand, light greenish gray (GLEY1 7/1), saturated, medium dense, coarse sand increasing with depth.	SW			
			14	Change to mostly medium sand, some coarse sand, little fine sand at 13.5 feet.				
			16	Blind drill to 22.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-10s/B-20

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18					Groundwater sample collected at 18-22 feet.
			20					
			22	End of boring at 22.0 feet below ground surface.				
			24					
			26					
			28					
			30					
			32					
			34					
			36					
			38					

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-10S
PROJ. NO:	8070.02	DATE INSTALLED:	5/12/2009 INSTALLED BY: Brent Ritchie		CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788.65	3.5	TOP OF CASING
785.15	0.0	GROUND SURFACE
	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL
	--	
		GROUT/BACKFILL METHOD
11.50	--	
	--	GROUT
		BENTONITE SEAL MATERIAL
		MEDIUM CHIPS
	6.0	BENTONITE SEAL
777.15	8.0	TOP OF SCREEN
		FILTER PACK MATERIAL
5.00		WELL GRAVEL
772.15	13.0	BOTTOM OF SCREEN
	13.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL
	--	
772.15	13.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:
BASED ON BORING LOG FOR B-20.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 13.0 FT.
NA IN. FROM NA TO NA FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 10 MINUTES

WATER REMOVED: 15 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: DARK GRAY

CLARITY AFTER: SLIGHTLY TURBID

COLOR AFTER: CLEAR/TAN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	15.26	T/PVC	5/12/2009	1710
DTB AFTER DEVELOPING:	15.34	T/PVC	5/12/2009	1725
SWE BEFORE DEVELOPING:	9.52	T/PVC	5/12/2009	1710
SWE AFTER DEVELOPING:	9.54	T/PVC	5/12/2009	1725
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-10d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	11/24/09	11/24/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	785.6	788.40	23.0	8.5

Boring Location: On TPC property at 420 S. Maumee Street, about 700 feet east of the corner of Patterson Street and Maumee Street

Personnel
Logged By - John Bacon
Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 11/24/09 00:00 ▽ Depth (ft bgs) 9
After Drilling: Date/Time 11/25/09 11:05 ▼ Depth (ft bgs) 12.15

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	75	2 2 4 5	0	**TOPSOIL AND FILL** grass, sand, silt, some gravel, dark brown.					
				SILT WITH SAND mostly silt, little sand, few clay, yellowish brown (10YR 5/6), damp, loose.				NA	
			2		ML				
			4	Same as above.					
2 SS	75	3 7 9 10		**POORLY GRADED SAND** mostly sub-angular to sub-rounded sand, few gravel, damp, poorly sorted.	SP			NA	
			6	**SILT WITH SAND** mostly silt, little sand, yellowish brown (10YR 5/6), damp, medium dense.					
					ML				
			8	▽					
3 SS	80	2 5 8 8	10	**POORLY GRADED SAND WITH SILT** mostly sub-rounded to sub-angular sand, few silt, gray (7.5YR 6/1), saturated, medium dense.	SP-SM			NA	Soil sample collected from 9 to 11 feet bgs at 14:20
			12	▼					

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Mary Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-10d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			14	Change to dark gray (7.5YR 4/1), medium dense to dense.	SP-SM				
4 SS	90	3 8 20 16	16					NA	
			18						
5 SS	100	5 9 15 21	20	**LEAN CLAY** mostly clay, few gravel, medium plasticity, saturated, hard.	CL			NA	pp = 4.5 tsf
6 ST	100		22					NA	Shelby tube collected from 21 to 23 feet bgs at 14:46
				End of boring at 23.0 feet below ground surface.					
			24						
			26						
			28						
			30						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

		WELL ID:	MW-10d
PROJ. NO: 8070.07	DATE INSTALLED: 11/24/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788.40	2.8	TOP OF CASING
785.60	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
16.80		RISER PIPE LENGTH
	10.0	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	12.0	BENTONITE SEAL
771.60	14.0	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
766.60	19.0	BOTTOM OF SCREEN
	23.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: WASHED SAND
762.60	23.0	HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.5 IN. FROM 0 TO 21 FT.
3 IN. FROM 21 TO 23 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.35 HOURS

WATER REMOVED: 40 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	22.47	T/PVC	12/3/2009	11:30
DTB AFTER DEVELOPING:	22.48	T/PVC	12/3/2009	12:00
SWE BEFORE DEVELOPING:	12.15	T/PVC	12/3/2009	11:30
SWE AFTER DEVELOPING:	12.21	T/PVC	12/3/2009	12:00
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-11s/B-13

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/14/09	5/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	36.0	2-8

Boring Location:	Personnel	Drilling Equipment:
In ROW on the east side of Pearl, south of intersection with Patterson Street	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 5/14/09 00:00 ▽ Depth (ft bgs) 28 After Drilling: Date/Time 5/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 GP	40		0	**TOPSOIL**				
			2	**SANDY SILTY CLAY** mostly clay, some silt, little to some fine to medium sand, few gravel, trace roots, medium plasticity, dark yellowish brown (10YR 4/4), damp, medium stiff.	CL-ML			Crushed rock in liner, very little soil recovery at 4.0 feet.
2 GP	10		4					
			6					
			8	**SAND** mostly coarse sand, few fine to medium sand, trace fine gravel, yellowish brown (10YR 5/8), damp, loose to medium dense.	SP			
3 GP	60		10					
			12	Change to moist to wet at 13.0 feet.				
4 GP	60		14	**SAND** mostly fine to coarse sand, few fine to coarse gravel, yellowish brown (10YR 5/8), damp, loose to medium dense.	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-11s/B-13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Change to moist at 16.0 feet.				
5 GP	60		18					
			20					No soil recovery due to rock in shoe, dry.
6 GP	0		22					
			24	Same as above.				
7 GP	50		26		SW			
			28	▽ Change to few to little fine gravel, few medium to coarse gravel, saturated at 28.0 feet.				
8 GP	50		30					Groundwater sample collected at 29-33 feet.
			32					
9 GP	71		34					
			36	Blind drill to 50.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-11s/B-13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					
			46					Groundwater sample collected at 46-50 feet.
			48					
			50	End of boring at 50.0 feet below ground surface.				
			52					
			54					
			56					
			58					

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID: **MW-11S**
PROJ. NO: 8070.02	DATE INSTALLED: 5/14/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
810.20	0.0 GROUND SURFACE
809.64	0.6 TOP OF CASING
--	0.5 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: --
	GROUT/BACKFILL METHOD: --
28.40	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	27.0 BENTONITE SEAL
781.24	29.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WELL GRAVEL
5.00	
776.24	34.0 BOTTOM OF SCREEN
	34.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
774.24	36.0 HOLE BOTTOM

RISER PIPE LENGTH: 28.40

SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 34.0 FT.
2.0 IN. FROM 34.0 TO 36.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 1 HOURS

WATER REMOVED: 3 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: YELLOWISH BROWN

CLARITY AFTER: SLIGHT TURBIDITY

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	33.41	T/PVC	5/14/2009	1503
DTB AFTER DEVELOPING:	33.42	T/PVC	5/14/2009	1610
SWE BEFORE DEVELOPING:	28.26	T/PVC	5/14/2009	1503
SWE AFTER DEVELOPING:	28.25	T/PVC	5/14/2009	1610
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-12s/B-37

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/12/09	5/12/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	43.0	2-8

Boring Location: In ROW on southeast corner of Potawatamee Street and Maumee Street

Personnel
Logged By - Brent Ritchie
Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 5/12/09 00:00 ▽ Depth (ft bgs) 6
After Drilling: Date/Time 5/12/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	42		2	**SILTY SAND WITH CLAY** mostly fine to coarse sand, little to some silt, few to little clay, few fine to medium gravel, yellowish brown (10YR 5/4), damp, medium dense.	SM			
			4	Change to little to some clay at 4.0 feet.				
2 GP	71		6 ▽	**SAND** mostly fine to coarse sand, few silt, light yellowish brown (10YR 6/4), moist, medium dense. Change to saturated at 6.0 feet.	SW			
			8	**SILT WITH CLAY** mostly silt, few to little clay, few fine sand, light yellowish brown (10YR 6/4), medium stiff to stiff.	ML			
				SAND mostly fine to coarse sand, few silt, light yellowish brown (10YR 6/4), moist, medium dense.	SW			
3 GP	71		10	**SANDY GRAVEL** mostly fine to coarse gravel, some fine to coarse sand, trace silt, trace clay, yellowish brown (10YR 5/4), moist, dense.	GW			
			12	Change to saturated at 12.5 feet.				
4 GP	81		14	Above grades to sand with gravel.				
				SAND WITH GRAVEL mostly fine to coarse sand, little fine to medium gravel, trace silt, brown (10YR 5/3), saturated, loose to medium dense.	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-12s/B-37

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
5 GP	100		18	Same as above.				
			20	Same as above.	SW			
6 GP	100		22					
			24	**GRAVEL** mostly fine to medium gravel, little to some coarse gravel, trace fine to coarse sand, brown (10YR 5/3), saturated, loose to medium dense.				
7 GP	100		26					
			28	Same as above.				
8 GP	100		30	Change to yellowish brown (10YR 5/8) at 29.0 feet.	GW			
			32	Change to gray (10YR 5/1) at 32.0 feet.				
9 MC	80		34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-12s/B-37

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38	Blind drill to 43.0 feet.				Groundwater sample collected at 38.5-42.5 feet.
			40					
			42	Drilling change at 41.0 feet indicating likely change to clay.				
			44	End of boring at 43.0 feet below ground surface.				
			46					
			48					
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-12S
PROJ. NO:	8070.02	DATE INSTALLED:	5/12/2009 INSTALLED BY: Brent Ritchie		CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
791.20	0.0 GROUND SURFACE
790.90	0.3 TOP OF CASING
--	0.5 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: --
	GROUT/BACKFILL METHOD: --
11.70	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	10.0 BENTONITE SEAL
779.20	12.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WELL GRAVEL
5.00	
774.20	17.0 BOTTOM OF SCREEN
	17.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
748.70	42.5 HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:

8.0	IN. FROM	0.0	TO	17.0	FT.
2.0	IN. FROM	17.0	TO	37.0	FT.
1.0	IN. FROM	37.0	TO	42.5	FT.
NA	IN. FROM	NA	TO	NA	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 10 MINUTES

WATER REMOVED: 12.5 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: YELLOWISH BROWN

CLARITY AFTER: SLIGHTLY TURBID

COLOR AFTER: CLEAN/TAN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	16.81	T/PVC	5/12/2009	1518
DTB AFTER DEVELOPING:	16.81	T/PVC	5/12/2009	1538
SWE BEFORE DEVELOPING:	12.39	T/PVC	5/12/2009	1518
SWE AFTER DEVELOPING:	12.39	T/PVC	5/12/2009	1538
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-12d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/15/10	3/15/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	790.9	790.48	40.0	4.25

Boring Location:	Personnel	Drilling Equipment:
Northeast corner of Pottawatamie Street and Maumee Street, just east of the first drive on Pottawatamie Street	Logged By - John Bacon Driller - John Verrett	CME 1050 ATV

Civil Town/City/or Village:	County:	State:	Water Level Observations:		
Tecumseh	Lenawee	MI	While Drilling:	Date/Time 3/15/10 00:00	▽ Depth (ft bgs) 14
			After Drilling:	Date/Time 3/16/10 08:18	▼ Depth (ft bgs) 13.95

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0					Hand Auger to 4 feet below ground surface to clear utilities.
			2					
1 SS	100	4 6 9 8	4	**WELL GRADED SAND WITH SILT** mostly fine to coarse sand, few silt, trace fine gravel, yellowish brown (10YR 5/6), damp, medium dense.	SW-SM			
			6					
			8					
2 SS	100	3 10 11 14	10	**SANDY SILT** mostly silt, some sand, few clay, non-plastic, gray (7.5YR 6/1) mottled with strong brown (7.5YR 5/8), no odor, damp, medium dense.	ML			
				WELL GRADED SAND WITH SILT mostly fine to coarse sand, few silt, trace gravel, dark grayish brown (2.5Y 4/2), no odor, damp, medium dense.	SW-SM			
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-12d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			14	Change to few coarse gravel, dark grayish brown (10YR 4/2), saturated.				
3 SS	75	6 8 11 9	16					
			18		SW-SM			
4 SS	85	3 7 10 8	20	Same as above.				
			22					
5 SS	90	5 6 8 7	24	**WELL GRADED SAND WITH SILT AND GRAVEL** mostly fine to coarse sand, few silt, some fine to coarse gravel, dark grayish brown (10YR 4/2), no odor, damp, medium dense.				
			26		SW-SM			
			28					
6	90	4 7	30	Change to dark gray (10YR 4/1).				

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/25/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-12d

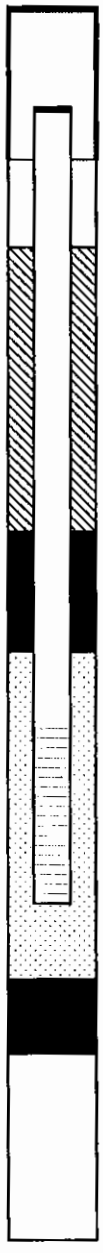
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
SS		8 6						
			32					
7 SS	75	2 5 6 5	34	Same as above.	SW-SM			
			36					
			38					
8 SS	90	5 8 12 16	40	**LEAN CLAY** mostly clay, few sand, medium to high plasticity, dark gray (10YR 4/1), no odor, damp to saturated, very stiff.	CL			Driller notes a change in drilling pressure
				End of boring at 40.0 feet below ground surface.				
			42					
			44					
			46					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-12d
PROJ. NO:	8070.07	DATE INSTALLED:	3/15/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
790.90	0.0 GROUND SURFACE
790.48	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
32.50	RISER PIPE LENGTH
	28.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	30.0 BENTONITE SEAL
757.98	33.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
752.98	38.0 BOTTOM OF SCREEN
	40.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
750.98	40.0 HOLE BOTTOM



NOTES:

No water level meter availible so no DTB or SWE measurements before development.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 38 FT.
1.75 IN. FROM 38 TO 40 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.7 HOURS

WATER REMOVED: 80 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NM	T/PVC	--	--
DTB AFTER DEVELOPING:	37.87	T/PVC	3/16/2010	8:18
SWE BEFORE DEVELOPING:	NM	T/PVC	--	--
SWE AFTER DEVELOPING:	13.95	T/PVC	3/16/2010	8:18
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-13s/B-41

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	5/12/09	5/12/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	20.0	2-8

Boring Location: On east side of Division Street, south of Chicago Blvd, in front of Pine Terrace Apartments

Personnel: Logged By - Brent Ritchie; Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 5/12/09 00:00 ▽ Depth (ft bgs) 5.5
After Drilling: Date/Time 5/12/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SAND WITH SILT AND CLAY** mostly fine to coarse sand, little silt, little clay, trace to few fine to medium gravel, dark yellowish brown (10YR 4/4), damp, medium dense.	SW-SM			
			4	**SILT WITH CLAY** mostly silt, little clay, trace fine sand, light yellowish brown (10YR 6/4), dry to damp, medium stiff.	ML			
2 GP	80		6	**SAND** mostly fine to coarse sand, trace to few silt, trace to few fine to medium gravel, brown (10YR 5/3), damp to moist, ▽ medium dense.	SW			
				SILTY CLAY trace fine sand, medium plasticity, brownish yellow (10YR 6/6), saturated, medium stiff. Change to moist at 6.0 feet. Change to gray (10YR 5/1) at 6.5 feet.	CL-ML			
3 GP	80		8	Change to mostly silt, wet at 8.5 feet.				
				SANDY SILT some fine sand, yellow (10YR 7/6), moist to wet, medium stiff.	ML			
			10	**SAND** mostly fine to coarse sand, few silt, light yellowish brown (10YR 6/4), moist to wet, medium dense.				
			12		SW			
4 GP	80		14	Above grades to mostly medium to coarse sand, trace fine gravel, grayish brown (10YR 5/2), saturated at 14.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
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Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-13s/B-41

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Change to mostly fine to medium sand at 16.0 feet.	SW			
5 GP	100		18	**SILTY CLAY** plastic to high plasticity, gray (10YR 5/1), saturated, soft. Change to moist to wet, medium stiff at 19.0 feet.	CL-ML			
			20	End of boring at 20.0 feet below ground surface.				
			22					
			24					
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-13S
PROJ. NO:	8070.02	DATE INSTALLED:	5/12/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
787.70	0.0 GROUND SURFACE
787.35	0.4 TOP OF CASING
--	0.5 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: --
	GROUT/BACKFILL METHOD: --
12.60	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	11.0 BENTONITE SEAL
774.75	13.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WELL GRAVEL
5.00	
769.75	18.0 BOTTOM OF SCREEN
	18.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
767.75	20.0 HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 18.0 FT.

2.0 IN. FROM 18.0 TO 20.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.

NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 5 MINUTES

WATER REMOVED: 7.5 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: DARK GRAY

CLARITY AFTER: SLIGHTLY TURBID

COLOR AFTER: MOSLTY CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	17.74	T/PVC	5/12/2009	1005
DTB AFTER DEVELOPING:	17.74	T/PVC	5/12/2009	1025
SWE BEFORE DEVELOPING:	14.74	T/PVC	5/12/2009	1005
SWE AFTER DEVELOPING:	14.77	T/PVC	5/12/2009	1025
OTHER SWE:	NA	T/PVC	NA	NA
OTHER SWE:	NA	T/PVC	NA	NA

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-14s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/14/09	5/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	19.0	2-8

Boring Location:	Personnel	Drilling Equipment:
Southeast corner of the Mohawk Street, Mill Highway, and Blood Street intersection	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 5/14/09 00:00 ▽ Depth (ft bgs) 4.5 After Drilling: Date/Time 5/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SILTY SAND WITH CLAY** mostly fine to coarse sand, little to some silt, little clay, few fine gravel, yellowish brown (10YR 5/4), damp to moist, medium dense.	SW			
			4	**SAND WITH SILT** mostly fine sand, little silt, trace to few clay, light yellowish brown (10YR 6/4), moist, medium dense to dense. ▽ Change to saturated at 4.5 feet.				
2 GP	79		6	Change few clay at 6.0 feet. Above grades to trace to few medium sand at 6.5 feet.	SP-SM			
			8					
3 GP	100		10	**SILTY CLAY** trace to few medium gravel, medium plasticity, gray (10YR 5/1), moist, stiff. 1-inch thick layer of wet gravelly sand at 10.5 feet.				
			12					
4 GP	100		14		CL-ML			
			16	Same as above.				
5 GP	100		18	3-inch thick layer of saturated sandy gravel at 18.0 feet.				
				End of boring at 19.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature: [signature]

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-14S
PROJ. NO:	8070.02	DATE INSTALLED:	5/14/2009 INSTALLED BY: Brent Ritchie		CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
780.90	0.0	GROUND SURFACE
780.67	0.2	TOP OF CASING
--	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: --
		GROUT/BACKFILL METHOD: --
3.80		RISER PIPE LENGTH
	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	3.0	BENTONITE SEAL
776.87	4.0	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: WELL GRAVEL
771.87	9.0	BOTTOM OF SCREEN
	9.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
761.87	19.0	HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 9.0 FT.
2.0 IN. FROM 9.0 TO 19.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 20 MINUTES

WATER REMOVED: 10 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: TURBID

COLOR BEFORE: LIGHT YELLOWISH BROWN

CLARITY AFTER: SLIGHT TURBIDITY

COLOR AFTER: CLEAR/TAN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NM	T/PVC	5/14/2009	952
DTB AFTER DEVELOPING:	NM	T/PVC	5/14/2009	1015
SWE BEFORE DEVELOPING:	4.87	T/PVC	5/14/2009	952
SWE AFTER DEVELOPING:	4.85	T/PVC	5/14/2009	1015
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-14d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/19/10	3/19/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	781.0	780.51	45.0	4.25

Boring Location:	Personnel	Drilling Equipment:
Corner of Mill Highway, Blood Road, and Mohawk Street	Logged By - John Bacon Driller - John Verrett	CME 1050 ATV

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 3/19/19 00:00 ▽ Depth (ft bgs) 7.5 After Drilling: Date/Time 3/19/10 10:56 ▼ Depth (ft bgs) 30.10

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			2					Hand Auger to 4 feet below ground surface to clear utilities.
1 SS	100	4 6 5 4	4	**SILTY SAND** mostly poorly graded sand, some silt, yellowish brown (10YR 5/4), no odor, damp, loose to medium dense.				
			6		SM			
			8	▽ Change to saturated.				Perched water at approximately 7.5 feet below ground surface
2 SS	100	2 4 6 8	10	**LEAN CLAY** mostly clay, some silt, few fine to coarse sand, low plasticity, dark gray (10YR 4/1), no odor, damp, stiff.				
			12		CL			
3 SS	100	5 8 12 15	14	Change to very stiff.				

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-14d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18		CL			
4 SS	75	8 16 20 16	20	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, brown (10YR 5/3), damp, dense.	SW			
			22					
5 SS	75	8 12 17 15	24	**WELL GRADED GRAVEL WITH SAND** mostly fine to coarse gravel, some fine to coarse sand, brown (10YR 4/3), no odor, damp, medium dense to dense.	GW			
			26					
			28					
6 SS	75	7 9 10 9	30 ▼	Change to medium dense.				
			32					
7 SS	75	3 5 9 8	34	Change to saturated.				
			36					

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-14d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
8 SS	75	6 9 9 14	40	Same as above.	GW			
			42					
9 SS	100	9 12 17 15	44	**LEAN CLAY** mostly clay, little silt, trace sand, low to medium plasticity, dark gray (10YR 4/1), no odor, saturated, very stiff to hard.	CL			Driller noted change in drilling pressure at 42.5 feet below ground surface.
				End of boring at 45 feet below ground surface.				
			46					
			48					
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-14d
PROJ. NO:	8070.07	DATE INSTALLED:	3/19/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
780.99	0.0	GROUND SURFACE
780.51	0.5	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
37.00		RISER PIPE LENGTH
	32.0	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	35.0	BENTONITE SEAL
743.51	37.5	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
738.51	42.5	BOTTOM OF SCREEN
	45.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: WASHED SAND
736.01	45.0	HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 43 FT.
1.75 IN. FROM 43 TO 45 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.5 HOURS

WATER REMOVED: 55 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brownish Gray

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	41.96	T/PVC	3/19/2010	10:56
DTB AFTER DEVELOPING:	41.96	T/PVC	3/19/2010	11:30
SWE BEFORE DEVELOPING:	30.10	T/PVC	3/19/2010	10:56
SWE AFTER DEVELOPING:	29.98	T/PVC	3/19/2010	11:30
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-15s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/15/09	5/15/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	36.0	2-8

Boring Location:	Personnel	Drilling Equipment:
On Union Street, east side of road, south of Patterson Street	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 5/15/09 00:00 ▽ Depth (ft bgs) 29 After Drilling: Date/Time 5/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				TOPSOIL				
1 GP	40		2	**SANDY SILTY CLAY** some fine to coarse sand, trace fine gravel, high plasticity, yellowish brown (10YR 5/6), wet, soft.	CL-ML			
2 GP	50		4 6 8	**GRAVELLY SAND** mostly fine to coarse sand, some fine to coarse gravel, brownish yellow (10YR 6/6), moist, medium dense.	SW			
3 GP	50		10	**SAND** mostly medium to coarse sand, few to little fine gravel, few fine sand, light yellowish brown (10YR 6/4), moist, medium dense to dense.				
4 GP	70		12 14	Change to few to little fine to medium gravel at 12.0 feet.	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-15s

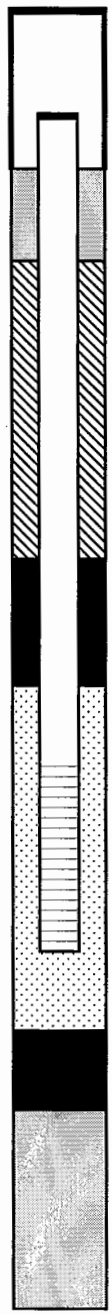
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Same as above.				
5 GP	70		18					
			20	Change to dense at 19.5 feet. Change to few fine to medium gravel, wet at 20.0 feet.				
6 GP	70		22					
			24	Same as above.				
7 GP	70		26		SW			
			28					
				▽ Change to saturated at 29.0 feet.				
8 GP	70		30					
			32	Same as above.				
9 GP	90		34					
			36	End of boring at 36.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-15S
PROJ. NO:	8070.02	DATE INSTALLED:	5/15/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
811.90	0.0	GROUND SURFACE
811.72	0.2	TOP OF CASING
--	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: --
		GROUT/BACKFILL METHOD: --
29.80		RISER PIPE LENGTH
	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	28.0	BENTONITE SEAL
781.92	30.0	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: WELL GRAVEL
776.92	35.0	BOTTOM OF SCREEN
	35.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
775.92	36.0	HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 35.0 FT.
2.0 IN. FROM 35.0 TO 36.0 FT.

SURF. CASING DIAMETER: NM IN. FROM NM TO NM FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND BAIL

TIME DEVELOPING: 0.5 HOURS

WATER REMOVED: 10 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: YELLOWISH BROWN

CLARITY AFTER: VERY TURBID

COLOR AFTER: YELLOWISH BROWN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	34.65	T/PVC	5/15/2009	1035
DTB AFTER DEVELOPING:	34.66	T/PVC	5/15/2009	1102
SWE BEFORE DEVELOPING:	29.65	T/PVC	5/15/2009	1035
SWE AFTER DEVELOPING:	29.65	T/PVC	5/15/2009	1102
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-16s/B-42

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	7/23/09	7/23/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	36.0	2-8

Boring Location:	Personnel	Drilling Equipment:
On Tecumseh Tire property along edge of ridge line, about 500 feet northeast of tire shop	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 7/23/09 00:00 ▽ Depth (ft bgs) 7.5 After Drilling: Date/Time 7/23/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SILTY SAND** mostly fine to medium sand, some silt, trace fine gravel, light yellowish brown (10YR 6/4), dry, loose.	SM			
			4	**SAND** mostly fine to coarse sand, trace to few fine to medium gravel, pale brown (10YR 6/3), dry, loose.	SW			
2 GP	30		6	Cobbles at 5.0 feet. **SILTY CLAY** mostly silty clay, trace fine gravel, slight plasticity, light gray (10YR 7/2), dry, medium stiff.	CL-ML			
			7.5	▽ **SANDY SILT** mostly silt, little fine sand, trace to few clay, nonplastic, yellowish brown (10YR 5/6), saturated at 7.5 feet, stiff.	ML			
3 GP	75		8	**GRAVELLY SAND** mostly fine to coarse sand, little fine to medium gravel, trace coarse gravel, trace silt, brown (10YR 5/3), damp, dense.				
			10					
			12	Same as above.	SW			
4 GP	60		14					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 9/10/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-16s/B-42

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Same as above.				
5 GP	70		18					
			20	Same as above.				
6 GP	40		22					
			24		SW			
7 GP	60		26					
				Same as above.				
			28					
8 GP	60		30					
				Change to wet to saturated at 31.5 feet.				Not enough water to sample at 31.5 feet.
			32	**CLAY** few fine to medium gravel, slight plasticity, gray (10YR 5/1), dry to damp, stiff.				
9 GP	100		34		CL			
			36	End of boring at 36.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 9/10/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-16S
PROJ. NO:	8070.02	DATE INSTALLED:	7/23/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
783.30	0.0	GROUND SURFACE
782.90	0.4	TOP OF CASING
--	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: --
		GROUT/BACKFILL METHOD: --
4.10	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	3.0	BENTONITE SEAL
778.80	4.5	TOP OF SCREEN
		FILTER PACK MATERIAL: WELL GRAVEL
5.00		
773.80	9.5	BOTTOM OF SCREEN
	9.5	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
747.30	36.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 9.5 FT.
2.0 IN. FROM 9.5 TO 36.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- MINUTES

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	DRY	T/PVC	7/23/2009	1700
DTB AFTER DEVELOPING:	NA	T/PVC	NA	NA
SWE BEFORE DEVELOPING:	DRY	T/PVC	7/23/2009	1700
SWE AFTER DEVELOPING:	NA	T/PVC	NA	NA
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-17s/B-44

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	7/23/09	7/23/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	8.0	2-8

Boring Location:	Personnel	Drilling Equipment:
On Birchfield property, about 1800 feet east of north corner of tire shop	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 7/23/09 00:00 ▽ Depth (ft bgs) 5.0 After Drilling: Date/Time 7/23/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	40		2	**SAND WITH GRAVEL** mostly fine to coarse sand, little fine to coarse gravel, trace to few silt, yellowish brown (10YR 5/4), damp, medium dense.	SW			
2 GP	50		4	▽ Change to saturated at 5.0 feet.				
			6	**SILTY CLAY** few fine to medium gravel, slight plasticity, brown (10YR 5/3), damp, stiff.	CL-ML			
			8	End of boring at 8.0 feet below ground surface.				
			10					
			12					
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

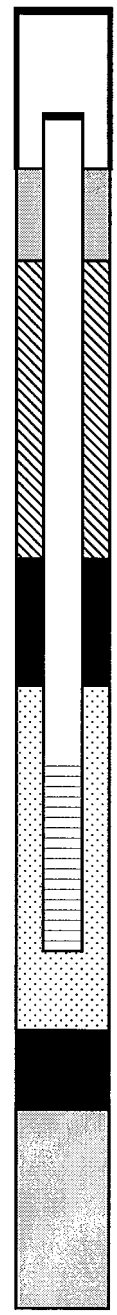
RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	**MW-17S**
PROJ. NO:	8070.02	DATE INSTALLED:	7/23/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
755.20	0.0	GROUND SURFACE
754.49	0.7	TOP OF CASING
--	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: --
		GROUT/BACKFILL METHOD: --
2.30	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	2.0	BENTONITE SEAL
752.19	3.0	TOP OF SCREEN
5.00		FILTER PACK MATERIAL: WELL GRAVEL
747.19	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: --
747.19	8.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	8.0	IN. FROM	0.0	TO	8.0	FT.
	NA	IN. FROM	NA	TO	NA	FT.
SURF. CASING DIAMETER:	NM	IN. FROM	NM	TO	NM	FT.
	NA	IN. FROM	NA	TO	NA	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 3 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: YELLOWISH BROWN

CLARITY AFTER: SLIGHT TO MEDIUM TURBID

COLOR AFTER: SLIGHT YELLOWISH BROWN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	7.63	T/PVC	7/23/2009	1616
DTB AFTER DEVELOPING:	7.63	T/PVC	7/23/2009	1633
SWE BEFORE DEVELOPING:	5.33	T/PVC	7/23/2009	1616
SWE AFTER DEVELOPING:	5.34	T/PVC	7/23/2009	1633
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-18s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	12/4/09	12/4/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	806.1	805.49	40.0	6.25

Boring Location: In ROW on the southwest corner of Muscody Street and Evans Street

Personnel
Logged By - John Bacon
Driller - Steve Bischoff

Drilling Equipment: Geoprobe 6610 DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 12/4/09 00:00 ▽ Depth (ft bgs) 26
After Drilling: Date/Time 12/4/09 12:35 ▼ Depth (ft bgs) 25.64

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			0	**TOPSOIL AND FILL** sand, clay, silt, few gravel, very dark brown (10YR 2/2), damp, loose.					
1 HA	100		2	**LEAN CLAY** mostly clay, few silt, trace sand, trace gravel, low plasticity, strong brown (7.5YR 4/6), soft.	CL			NA	
2 GP	75		4	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sub-angular to sub-rounded sand, some gravel, brown (7.5YR 4/4), damp, loose.	SW			NA	
			6						
			8	Same as above.					
3 GP	75		10	**WELL GRADED SAND** mostly fine to coarse sub-angular to sub-rounded sand, few gravel, dark brown (7.5YR 3/3), damp.				NA	
			12	Same as above.					
4 GP	75		14	Change to trace coarse gravel from 14 to 15 ft bgs.	SW			NA	
			16	Same as above.					
5									

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: _____

Checked By: Stacy Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-18s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
GP	60		20	Change to trace fine gravel, brown (7.5YR 4/3), loose. Same as above	SW			NA	
6 GP	50		22					NA	
			24	Same as above.					
7 GP	50		26	**POORLY GRADED SAND WITH GRAVEL** mostly fine to coarse sub-angular to sub-rounded sand, little to some fine to coarse gravel, damp to saturated, loose.				NA	
			28	Same as above.					
8 GP	90		30	2-inch gravel lense at 29.5 ft bgs.				NA	
			32	2-inch gravel lense at 32.0 ft bgs. Change to brown (7.5YR 5/3), gravel lenses interbedded with sand.	SP				
9 GP	90		34					NA	
			36	Change to gray (7.5YR 5/1) at 35.5 ft bgs. Same as above					
10 GP	80		38					NA	
			40	Boring terminated due to heaving in dual tubes. End of boring at 40.0 feet below ground surface.					

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-18s
PROJ. NO:	8070.07	DATE INSTALLED:	12/4/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
806.07	0.0 GROUND SURFACE
805.49	0.6 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
25.40	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	21.0 BENTONITE SEAL
780.09	26.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WASHED SAND & NATURAL COLLAPSE
775.09	31.0 BOTTOM OF SCREEN
	31.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
775.09	31.0 HOLE BOTTOM

RISER PIPE LENGTH: 25.40
SCREEN LENGTH: 5.00

NOTES:

Sand bridged in augers at 26 ft bgs so spun loose and removed one flight. Natural collapse to 21 ft bgs above well screen at 26 ft bgs.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	6.5	IN. FROM	0	TO	31 FT.
		IN. FROM		TO	FT.
SURF. CASING DIAMETER:	9	IN. FROM	0	TO	1 FT.
		IN. FROM		TO	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.9 HOURS

WATER REMOVED: 5 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	31.08	T/PVC	12/4/2009	12:00
DTB AFTER DEVELOPING:	31.10	T/PVC	12/4/2009	12:55
SWE BEFORE DEVELOPING:	25.64	T/PVC	12/4/2009	12:00
SWE AFTER DEVELOPING:	25.65	T/PVC	12/4/2009	12:55
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? [✓] YES [ ] NO

PROTECTIVE COVER AND LOCK INSTALLED? [✓] YES [ ] NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-19s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	12/2/09	12/2/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	804.3	803.92	30.0	8.5

Boring Location: East of railroad right-of-way on parcel # 325-0263-00 (fire department) imediately south of Evans Street driveway

Personnel: Logged By - John Bacon; Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 12/2/09 00:00 ▽ Depth (ft bgs) 24
After Drilling: Date/Time 12/2/09 14:30 ▼ Depth (ft bgs) 24.13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	50	2, 6, 10, 12	0–2	**TOPSOIL AND FILL** grass, sand, gravel, silt, poorly sorted, dark brown (7.5YR 3/2), damp. **LEAN CLAY WITH SAND** mostly clay, little sand, few fine to coarse gravel, low plasticity, damp, very stiff.	CL			NA	pp = 3.5 tsf
2 SS	75	2, 4, 5, 6	4–6	**SANDY LEAN CLAY** mostly clay, some sand, some fine to coarse gravel, low plasiticity, dark reddish brown (5YR 3/4) damp, medium stiff.	CL			NA	pp = 0.75 tsf
3 SS	50	10, 9, 5, 6	10–12	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sub-angular to sub-rounded sand, some fine to coarse gravel, trace silt, brown (7.5YR 4/3), damp, medium dense.	SW			NA	
4 SS	75	4, 5, 6, 7	14–	**POORLY GRADED SAND** mostly sub-angular to sub-rounded sand, few fine to coarse gravel, brown (7.5YR 4/3), damp, medium dense.	SP			NA	

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-19s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18						
5 SS	75	5 9 10 10	20	Same as above.	SP			NA	
			22						
6 SS		8 6 6 6	24	**WELL GRADED SAND** mostly fine to coarse sub-angular to sub-rounded sand, trace fine gravel, brown (7.5YR 4/3), saturated, medium dense.	SW			NA	
			26						
			28						
			30	End of boring at 30.0 feet below ground surface.					
			32						
			34						
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-19s
PROJ. NO:	8070.07	DATE INSTALLED:	12/2/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
804.30	0.0 GROUND SURFACE
803.92	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
24.60	21.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	23.0 BENTONITE SEAL
779.32	25.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
774.32	30.0 BOTTOM OF SCREEN
	30.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
774.32	30.0 HOLE BOTTOM

RISER PIPE LENGTH: 24.60
SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC
PIPE SCHEDULE: 40
PIPE JOINTS: THREADED O-RINGS
SOLVENT USED? NO
SCREEN TYPE: 2-INCH PVC
SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.5 IN. FROM 0 TO 30 FT.
_____ IN. FROM _____ TO _____ FT.
SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP
TIME DEVELOPING: 0.4 HOURS
WATER REMOVED: 35 GALLONS
WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy
COLOR BEFORE: Brown
CLARITY AFTER: Clear
COLOR AFTER: None
ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	30.25	T/PVC	12/3/2009	13:30
DTB AFTER DEVELOPING:	30.30	T/PVC	12/3/2009	14:10
SWE BEFORE DEVELOPING:	24.12	T/PVC	12/3/2009	13:30
SWE AFTER DEVELOPING:	24.04	T/PVC	12/3/2009	14:10
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? [✓] YES [ ] NO
PROTECTIVE COVER AND LOCK INSTALLED? [✓] YES [ ] NO
LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-19d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	12/2/09	12/2/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	804.3	804.04	50.0	8.5

Boring Location: East of railroad right-of-way on parcel # 325-0263-00 (fire department) imediately south of Evans Street driveway

Personnel: Logged By - John Bacon; Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 12/2/09 00:00 Depth (ft bgs) 25
After Drilling: Date/Time 12/2/09 12:40 Depth (ft bgs) 24.16

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	75	2 2 4 7	0	**TOPSOIL AND FILL** grass, sand, gravel, silt, dark brown (7.5YR 3/2), damp, loose, poorly sorted.					
				LEAN CLAY WITH SAND mostly clay, little sand, few gravel, low plasticity, reddish yellow (7.5YR 6/8), damp, very stiff.	CL			NA	pp = 3.5 tsf
			2						
			4						
2 SS	10	3 2 2 3		**SANDY LEAN CLAY** mostly clay, some sand, some fine to coarse angular to sub-angular gravel, low plasiticity, dark reddish brown (5YR 3/4) damp, medium stiff.				NA	low recovery due to stone in sampler pp = 0.75 tsf
			6		CL				
			8						
3 SS	50	6 6 8 8	10	Same as above. **POORLY GRADED SAND WITH GRAVEL** mostly sub-angular to sub-rounded sand, some fine to coarse gravel, trace silt, brown (7.5YR 5/4), damp, medium dense.				NA	
			12		SP				
4 SS	5	9 10 11 11	14	**WELL GRADED SAND** mostly fine to coarse sub-angular to sub-rounded sand, few fine to coarse gravel, brown (7.5YR 4/3), damp, loose to medium dense.	SW			NA	low recovery due to gravel obstruction, blow counts are biased high

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-19d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18						
5 SS	60	6 8 8 7	20	Change to brown (7.5YR 4/2).				NA	
			22						
6 SS	75	2 4 5 7	24	Change to trace sub-angular to sub-rounded fine gravel, brown (7.5YR 4/3). ▽ Change to saturated at 25 ft bgs.	SW			NA	
			26						
			28						
7 SS	75	5 7 8 6	30	Change to gray (7.5YR 4/1), lens of fine angular gravel at 29.5 ft bgs.				NA	
			32						
8 SS	30	1 2 2 3	34	Change to very loose to loose.				NA	
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-19d

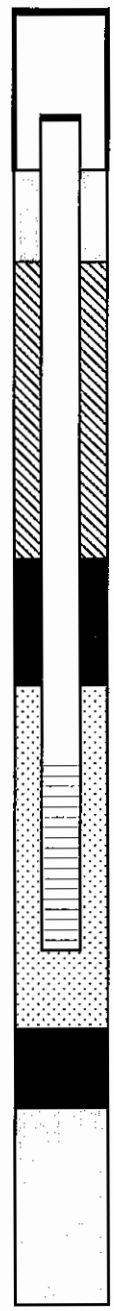
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	SAMPLE BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			38		SW				
				Same as above.					
9 SS	75	4 6 6 8	40	**POORLY GRADED GRAVEL WITH SAND** mostly fine sub-angular to rounded gravel, little sand, dark gray (7.5YR 4/1), saturated, medium dense.	GP			NA	
			42						
			44	Change to very loose to medium dense.					
10 SS	75	0 5 6 7		**LEAN CLAY** mostly clay, few fine to coarse sand, few silt, medium to high plasticity, dark gray (7.5YR 4/1), saturated, medium stiff.				NA	
11 SS	75	4 8 12 14	46	Change to trace fine gravel, very stiff.	CL			NA	pp = 3.0 tsf
12 ST	100		48	Same as above.				NA	Shelby tube collected at 10:45 am
			50	End of boring at 50.0 feet below ground surface.					
			52						
			54						
			56						
			58						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-19d
PROJ. NO:	8070.07	DATE INSTALLED:	12/2/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
804.32	0.0 GROUND SURFACE
804.04	0.3 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
39.70	36.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	38.0 BENTONITE SEAL
764.34	40.0 TOP OF SCREEN
5.00	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
759.34	45.0 BOTTOM OF SCREEN
	50.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
754.34	50.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.5 IN. FROM 0 TO 48 FT.
3 IN. FROM 48 TO 50 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
IN. FROM TO FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.4 HOURS

WATER REMOVED: 35 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	45.37	T/PVC	12/3/2009	14:00
DTB AFTER DEVELOPING:	45.53	T/PVC	12/3/2009	14:25
SWE BEFORE DEVELOPING:	24.13	T/PVC	12/3/2009	14:00
SWE AFTER DEVELOPING:	24.16	T/PVC	12/3/2009	14:25
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-20s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	11/30/09	11/30/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	Hand Auger/HSA	783.6	783.16	13.0	8.5

Boring Location: In ROW on west side of Maumee Street in front of Martins Home Center, about 1600 feet south of Patterson Street

Personnel
Logged By - John Bacon
Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 11/30/09 00:00 ▽ Depth (ft bgs) 9
After Drilling: Date/Time 11/30/09 15:15 ▼ Depth (ft bgs) 4.29

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 HA	100		0	**TOPSOIL AND FILL** grass, silty sand, very dark brown (10YR 2/2), damp, loose.				NA	
			1	**POORLY GRADED SAND WITH SILT** mostly sand, few to little silt, very dark brown (10YR 2/2), damp, loose.					
2 HA	100		2	Change to poorly sorted fine to coarse sub-rounded to sub-angular sand, yellowish brown (10YR 6/6).	SP-SM			NA	
3 SS	85	4 11 13 14	4	▼ **POORLY GRADED SAND** mostly sub-rounded to sub-angular sand, trace silt, damp, medium dense, poorly sorted.				NA	
			6						
			8	▽ Change to trace round to sub-angular fine gravel, saturated.	SP				
4 SS	75	4 7 7 8	10					NA	
			12						
				End of boring at 13.0 feet below ground surface.					
			14						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-20s
PROJ. NO:	8070.07	DATE INSTALLED:	11/30/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
783.64	0.0	GROUND SURFACE
783.16	0.5	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.50		RISER PIPE LENGTH
	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	6.0	BENTONITE SEAL
775.66	8.0	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
770.66	13.0	BOTTOM OF SCREEN
	13.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: WASHED SAND
770.66	13.0	HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	8.5	IN. FROM	0	TO	13	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	9	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 55 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	12.79	T/PVC	12/3/2009	12:55
DTB AFTER DEVELOPING:	12.81	T/PVC	12/3/2009	13:15
SWE BEFORE DEVELOPING:	4.72	T/PVC	12/3/2009	12:55
SWE AFTER DEVELOPING:	4.77	T/PVC	12/3/2009	13:15
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-20d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	11/30/09	11/30/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	Hand Auger/HSA	783.6	783.29	46.0	8.5

Boring Location: In ROW on west side of Maumee Street in front of Martins Home Center, about 1600 feet south of Patterson Street

Personnel: Logged By - John Bacon; Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 11/30/09 00:00 ▽ Depth (ft bgs) 9
After Drilling: Date/Time 11/30/09 13:25 ▼ Depth (ft bgs) 11.26

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 HA	100		0–2	**TOPSOIL AND FILL** sand, silt, gravel, very dark brown (10YR 2/2), damp, loose.					
			2	**WELL GRADED SAND WITH SILT** mostly fine to coarse sub-rounded to sub-angular sand, few to little silt, brownish yellow (10YR 6/6), damp.	SW-SM			NA	
2 SS	75	4 6 18 4	4	Same as above.				NA	
			6	**POORLY GRADED SAND WITH GRAVEL** mostly sand, little fine to coarse gravel, yellowish brown (10YR 5/8), damp, medium dense, sub-rounded to sub-angular.	SP				
			8	▽					
3 SS	75	4 5 7 8	10	**POORLY GRADED SAND** mostly sand, trace fine gravel, yellowish brown (10YR 5/8), saturated, medium dense, rounded to sub-angular.				NA	
			12	▼	SP				
4 SS	5	2 2 4 5	14	Change to brown (7.5YR 5/4).				NA	Low recovery due to an obstruction

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
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RMT

WELL CONSTRUCTION LOG

WELL NO. MW-20d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	PID (PPM)	COMMENTS
			18				
5 SS	50	1 2 4 5	20	Change to brown (7.5YR 5/2), loose.	SP	NA	
			22				
6 SS	50	4 10 15 17	24	**WELL GRADED SAND WITH GRAVEL** mostly fine to course sub-angular to sub-rounded sand, little gravel, trace silt, gray (7.5 YR 5/1), saturated, medium dense to dense.	SW	NA	
			26				
			28				
7 SS	50	15 21 15 18	30	Same as above. **WELL GRADED GRAVEL WITH SAND** mostly fine to coarse gravel, some sand, trace silt and clay, gray (7.5 YR 5/1), saturated, dense.	GW	NA	
			32				
8 SS	50	3 8 11 15	34	**POORLY GRADED GRAVEL WITH SAND** mostly fine gravel, some sand, gray (7.5 YR 5/1), saturated, medium dense.	GP	NA	
			36				

GRAPHIC LOG / WELL DIAGRAM

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

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WELL CONSTRUCTION LOG

WELL NO. MW-20d

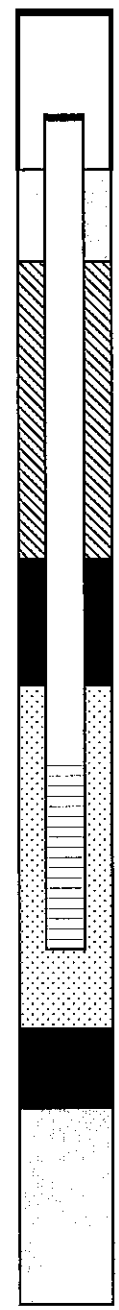
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			38						
9 SS	75	4 8 14 14	40	Change to trace silt and clay.	GP			NA	
			42						
10 SS	75	5 10 15 22	44	**LEAN CLAY WITH SAND** mostly clay, little sand, low plasticity, grayish brown (10 YR 5/2), saturated, very stiff to hard.	CL			NA	Change in stiffness noted by driller at 43.5 ft bgs pp = 4.0 tsf
			46	End of boring at 46.0 feet below ground surface.					
			48						
			50						
			52						
			54						
			56						
			58						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company			WELL ID: MW-20d
PROJ. NO: 8070.07	DATE INSTALLED: 11/30/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
783.64	0.0	GROUND SURFACE
783.29	0.4	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
38.10		RISER PIPE LENGTH
	34.5	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	36.5	BENTONITE SEAL
745.19	38.5	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		SCREEN LENGTH
740.19	43.5	BOTTOM OF SCREEN
	44.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: WASHED SAND
739.69	44.0	HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.5 IN. FROM 0 TO 34 FT.
____ IN. FROM ____ TO ____ FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 20 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	44.03	T/PVC	12/3/2009	12:50
DTB AFTER DEVELOPING:	44.08	T/PVC	12/3/2009	13:10
SWE BEFORE DEVELOPING:	11.55	T/PVC	12/3/2009	12:50
SWE AFTER DEVELOPING:	11.75	T/PVC	12/3/2009	13:10
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-21

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	11/25/09	11/25/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	Hand Auger/HSA	781.2	780.85	34.0	8.5

Boring Location: In ROW of Mohawk Street adjacent to Birchfield property (parcel # 325-0436-00)

Personnel
Logged By - John Bacon
Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 11/25/09 00:00 ▽ Depth (ft bgs) 30.5
After Drilling: Date/Time 11/30/09 09:20 ▼ Depth (ft bgs) 29.69

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 HA	100		0–4	**SILTY SAND WITH GRAVEL** very dark brown (10YR 2/2), dry to damp, loose, poorly sorted, organic material.	SM			NA	
2 SS	10	7 20 19 >50	4–6	**WELL GRADED GRAVEL WITH SAND** mostly fine to coarse gravel, some sand, dry, dense to very dense.	GW			NA	Low recovery due to an obstruction, color undetermined due to pulverized material in split spoon.
			6–8						
3 SS	5	15 23 20 21	8–10	Change to damp.				NA	Low recovery due to an obstruction.
			10–12						
4 SS	50	4 11 13 12	12–14	**POORLY GRADED GRAVEL WITH SILT AND SAND** mostly gravel, little to some sand, few to little silt, brown (7.5YR 5/4), damp, medium dense.	GP-GM			NA	

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
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WELL CONSTRUCTION LOG

WELL NO. MW-21

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18						
5 SS	90	8 11 9 8	20	Change to strong brown (7.5YR 5/6).	GP-GM			NA	
			22						
6 SS	80	7 14 13 12	24	**POORLY GRADED SAND** mostly sand, trace gravel, trace silt, dark brown (7.5YR 3/2), damp, medium dense to dense, poorly graded.	SP			NA	
			26						
			28						
7 SS	80	12 15 14 14	30	Change to few gravel, brown (7.5YR 5/4), saturated at 30.5 feet below ground surface. ▼ ▽				NA	
			32						
8 SS	95		34	**LEAN CLAY** mostly clay, few silt, few sand, trace gravel, low to medium plasticity, gray (7.5YR 5/1), saturated, hard.	CL			NA	pp = 4.0 tsf
				End of boring at 34.0 feet below ground surface.					
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-21
PROJ. NO:	8070.07	DATE INSTALLED:	11/25/2009 INSTALLED BY: John Bacon		CHECKED BY: S. Melz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
781.24	0.0 GROUND SURFACE
780.85	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
28.10	24.5 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	26.5 BENTONITE SEAL
752.75	28.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
747.75	33.5 BOTTOM OF SCREEN
	33.5 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
747.75	33.5 HOLE BOTTOM

RISER PIPE LENGTH: 28.10

SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.5 IN. FROM 0 TO 33.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.65 HOURS

WATER REMOVED: 20 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	33.69	T/PVC	11/30/2009	16:25
DTB AFTER DEVELOPING:	33.77	T/PVC	11/30/2009	17:05
SWE BEFORE DEVELOPING:	29.70	T/PVC	11/30/2009	16:25
SWE AFTER DEVELOPING:	29.81	T/PVC	11/30/2009	17:05
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-22

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	12/1/09	12/1/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	783.1	782.62	31.0	8.5

Boring Location: Northeast corner of Birchfield property (parcel # 325-0435-00)

Personnel
Logged By - John Bacon
Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 12/1/09 00:00 ▽ Depth (ft bgs) 25.5
After Drilling: Date/Time 12/1/09 16:50 ▼ Depth (ft bgs) 24.56

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	75	2 2 2 7	0	**TOPSOIL AND FILL** grass, sand, silt, clay, fine gravel, strong brown (7.5YR 4/6), damp, very loose to loose.				NA	
			2	**WELL GRADED SAND** mostly fine to coarse sand, few fine gravel, damp, loose.	SW				
2 SS	90	8 10 12 11	4	Change to sub-rounded to sub-angular sand, medium dense.				NA	
			6						
			8						
3 SS	75	2 3 5 7	10	Same as above. **POORLY GRADED SAND** mostly fine to medium sub-rounded to rounded sand, damp, loose to medium dense.				NA	
			12		SP				
4 SS	90	2 2 2 11	14	**LEAN CLAY WITH SAND** mostly clay, little silt, little sand, damp to saturated, stiff.	CL			NA	pp = 1.25 tsf

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
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Fax 734-971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-22

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18		CL				Change in stiffness noted by driller
5 SS	50	10 15 15 11	20	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sub-rounded to rounded sand, some fine gravel, brown (10YR 4/3), damp, medium dense.	SW			NA	
			22						
6 SS	75	10 10 8 8	24	Change to fine to coarse gravel. Change to saturated.				NA	
			26						Change in stiffness noted by driller pp = 4.0 tsf
7 SS	75	6 10 16 20	28	**LEAN CLAY** mostly clay, some silt, few sand, low to medium plasitcity, dark gray (7.5YR 4/1), saturated, hard.	CL			NA	
8 SS	75	8 8 14 14	30	Same as above.				NA	
				End of boring at 31.0 feet below ground surface.					
			32						
			34						
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-22
PROJ. NO:	8070.07	DATE INSTALLED:	12/1/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
783.06	0.0 GROUND SURFACE
782.62	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
24.60	21.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	23.0 BENTONITE SEAL
758.02	25.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
753.02	30.0 BOTTOM OF SCREEN
	30.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
753.02	30.0 HOLE BOTTOM

RISER PIPE LENGTH: 24.60
SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC
PIPE SCHEDULE: 40
PIPE JOINTS: THREADED O-RINGS
SOLVENT USED? NO
SCREEN TYPE: 2-INCH PVC
SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.5 IN. FROM 0 TO 30 FT.
_____ IN. FROM _____ TO _____ FT.
SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP
TIME DEVELOPING: 0.7 HOURS
WATER REMOVED: 35 GALLONS
WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy
COLOR BEFORE: Brown
CLARITY AFTER: Clear
COLOR AFTER: None
ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	30.15	T/PVC	12/3/2009	9:00
DTB AFTER DEVELOPING:	30.29	T/PVC	12/3/2009	9:40
SWE BEFORE DEVELOPING:	24.25	T/PVC	12/3/2009	9:00
SWE AFTER DEVELOPING:	25.24	T/PVC	12/3/2009	9:40
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO
PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO
LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-23

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	11/24/09	11/24/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	787.2	787.10	26.0	8.5

Boring Location: In ROW on the south side of Kilbuck Street in front of Lenawee County Ambulance, approximately 100 feet west of Wyondotte Street

Personnel: Logged By - John Bacon; Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 11/24/09 00:00 ▽ Depth (ft bgs) 15
After Drilling: Date/Time 11/24/09 14:30 ▼ Depth (ft bgs) 9.21

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	50	4 2 2 2	0	**TOPSOIL**					
			2	**SANDY SILT** mostly silt, some sand, trace gravel, light olive brown (2.5Y 5/4), damp, loose.	ML			NA	
2 SS	90	5 6 10 10	4	**SILT WITH SAND** mostly silt, little sand, few clay, mottled light yellowish brown (2.5Y 6/3) and gray (10YR 6/1), damp, medium dense.	ML			NA	
			6						
			8						
3 SS	80	5 4 5 11	10 ▼	**SILTY CLAY** mostly clay, some silt, few sand, plastic, grayish brown (10YR 5/2), damp, stiff.	CL-ML			NA	pp = 1.25 tsf
			12						
4 SS	100	6 11 10 8	14 ▽	Same as above.				NA	
				POORLY GRADED SAND mostly sub-rounded to sub-angular sand, little fine gravel, dark gray (7.5YR 4/1), saturated, medium dense, poorly sorted.	SP				

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
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RMT

WELL CONSTRUCTION LOG

WELL NO. MW-23

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18		SP				
5 SS		1 3 3 3	20	**POORLY GRADED SAND WITH GRAVEL** mostly sub-angular to sub-rounded sand, some gravel, dark gray (7.5YR 4/1), saturated, loose, poorly sorted.	SP			NA	Soil sample collected from 19 to 21 feet bgs at 10:55
			22						
6 SS	75	3 5 9 13	24	**LEAN CLAY** mostly clay, few silt, few sand, plastic, gray (7.5YR 5/1), saturated, stiff.	CL			NA	pp = 1.75 tsf
			26	End of boring at 26.0 feet below ground surface.					
			28						
			30						
			32						
			34						
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-23
PROJ. NO:	8070.07	DATE INSTALLED:	11/24/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
787.19	0.0 GROUND SURFACE
787.10	0.1 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
16.90	13.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	15.0 BENTONITE SEAL
770.20	17.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
765.20	22.0 BOTTOM OF SCREEN
	26.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
761.20	26.0 HOLE BOTTOM

RISER PIPE LENGTH: 16.90
SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC
PIPE SCHEDULE: 40
PIPE JOINTS: THREADED O-RINGS
SOLVENT USED? NO
SCREEN TYPE: 2-INCH PVC
SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	8.5	IN. FROM	0	TO	24 FT.
	2	IN. FROM	24	TO	26 FT.
SURF. CASING DIAMETER:	9	IN. FROM	0	TO	1 FT.
		IN. FROM		TO	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP
TIME DEVELOPING: 0.25 HOURS
WATER REMOVED: 40 GALLONS
WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy
COLOR BEFORE: Brown
CLARITY AFTER: Clear
COLOR AFTER: None
ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	21.94	T/PVC	12/3/2009	10:55
DTB AFTER DEVELOPING:	22.09	T/PVC	12/3/2009	11:15
SWE BEFORE DEVELOPING:	9.33	T/PVC	12/3/2009	10:55
SWE AFTER DEVELOPING:	9.33	T/PVC	12/3/2009	11:15
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO
PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO
LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-24s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	11/23/09	11/23/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	798.3	797.83	24.0	8.5

Boring Location: In ROW on the south side of Cummins Street across from 205 Cummins, approximately 200 feet east of Ottawa Street

Personnel: Logged By - John Bacon; Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 11/23/09 00:00 ▽ Depth (ft bgs) 19.5
After Drilling: Date/Time 11/24/09 14:30 ▼ Depth (ft bgs) 19.04

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	25	1 3 8 7	2	**POORLY GRADED SAND** mostly fine to medium sand, trace silt, dark brown (7.5YR 3/3), damp, medium dense.	SP			NA	
2 SS	50	5 8 18 12	4 6 8	**POORLY GRADED SAND WITH GRAVEL** mostly coarse to medium sand, some subrounded gravel, brown (7.5YR 4/4), damp, medium dense to dense.	SP			NA	
3 SS	50	19 8 9 7	10 12	**POORLY GRADED SAND** mostly coarse to medium sand, few to little subrounded gravel, brown (7.5YR 4/4), damp, medium dense.	SP			NA	
4 SS	75	19 10 7 7	14	Same as above.				NA	

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

Firm: RMT Inc.
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RMT

WELL CONSTRUCTION LOG

WELL NO. MW-24s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18						
5 SS		18 8 6 6	20	▼ Change to brown (7.5YR 5/2), saturated at 19.5 feet below ground surface. ▽	SP			NA	
			22						
			24	End of boring at 24.0 feet below ground surface.					
			26						
			28						
			30						
			32						
			34						
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-24s
PROJ. NO:	8070.07	DATE INSTALLED:	11/23/2009 INSTALLED BY: John Bacon		CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
798.26	0.0	GROUND SURFACE
797.83	0.4	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
18.10	14.5	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	16.5	BENTONITE SEAL
779.73	18.5	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
774.73	23.5	BOTTOM OF SCREEN
	23.5	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
774.23	24.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.5 IN. FROM 0 TO 24 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.3 HOURS

WATER REMOVED: 30 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	23.53	T/PVC	12/3/2009	10:05
DTB AFTER DEVELOPING:	23.69	T/PVC	12/3/2009	10:45
SWE BEFORE DEVELOPING:	19.08	T/PVC	12/3/2009	10:05
SWE AFTER DEVELOPING:	19.09	T/PVC	12/3/2009	10:45
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-24d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	11/23/09	11/23/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	798.3	797.93	46.0	8.5

Boring Location: In ROW on the south side of Cummins Street across from 205 Cummins, approximately 200 feet east of Ottawa Street

Personnel
Logged By - John Bacon
Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 11/23/09 00:00 ▽ Depth (ft bgs) 19.5
After Drilling: Date/Time 11/24/09 14:30 ▼ Depth (ft bgs) 19.13

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	50	1 2 6 9	2	**POORLY GRADED SAND** mostly fine to medium sand, trace silt, dark brown (7.5YR 3/3), damp, medium dense.	SP			NA	
2 SS	0	7 25 25 25	4 6 8		SP			NA	No recovery due to an obstruction (rock). See boring log for MW-24s as a reference.
3 SS	50	4 11 9 8	10 12	**POORLY GRADED SAND WITH GRAVEL** mostly coarse to medium sand, some sub-rounded gravel, brown (7.5YR 4/4), damp, medium dense.	SP			NA	
4 SS	10	6 19 10 9	14	**POORLY GRADED SAND** mostly coarse to medium sand, few sub-rounded gravel, brown (7.5YR 4/4), moist, medium dense.	SP			NA	

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature:

Checked By: Stacy Metz

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WELL CONSTRUCTION LOG

WELL NO. MW-24d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18						
5 SS	75	5 8 11 10	20	▼ Change to brown (7.5YR 5/2), saturated at 19.5 feet below ground surface.				NA	
			22		SP				
6 SS	75	4 8 9 10	24	Change to trace gravel, gray (5YR 5/1).				NA	
			26						
			28						
7 SS	90	10 19 35 32	30	**SILTY SAND** mostly fine sub-rounded to rounded sand, little silt, gray (5YR 6/1), saturated, dense to very dense, moderate sorting.				NA	
			32		SM				
8 SS	50	4 17 36 32	34	Change to some silt.				NA	
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-24d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			38		SM				
9 SS	75	3 3 7 8	40	**POORLY GRADED SAND WITH GRAVEL** mostly coarse to medium sub-rounded to sub-angular sand, some sub-rounded to rounded gravel, dark gray (5YR 4/1), saturated, medium dense.	SP			NA	
			42						
10 SS		2 4 6 9	44	**LEAN CLAY** mostly clay, few silt, few sand, plastic, gray (10YR 5/1), saturated, stiff.	CL			NA	pp = 1.75 tsf
			46	End of boring at 46.0 feet below ground surface.					
			48						
			50						
			52						
			54						
			56						
			58						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-24d
PROJ. NO:	8070.07	DATE INSTALLED:	11/23/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
798.31	0.0 GROUND SURFACE
797.93	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
38.60	35.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	37.0 BENTONITE SEAL
759.33	39.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
754.33	44.0 BOTTOM OF SCREEN
	46.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
752.33	46.0 HOLE BOTTOM

RISER PIPE LENGTH: 38.60

SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	8.5	IN. FROM	0	TO	44	FT.
	2	IN. FROM	44	TO	46	FT.
SURF. CASING DIAMETER:	9	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.4 HOURS

WATER REMOVED: 20 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	44.12	T/PVC	12/3/2009	10:01
DTB AFTER DEVELOPING:	44.21	T/PVC	12/3/2009	10:30
SWE BEFORE DEVELOPING:	19.18	T/PVC	12/3/2009	10:01
SWE AFTER DEVELOPING:	19.19	T/PVC	12/3/2009	10:30
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-25s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	12/1/09	12/1/09	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	798.7	798.23	56.0	8.5

Boring Location: On southernmost TPC parcel (#325-0250-00), approximately 129 feet south of TPC fence

Personnel
Logged By - John Bacon
Driller - Bert Graham

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 12/1/09 00:00 ▽ Depth (ft bgs) 20.5
After Drilling: Date/Time 12/1/09 12:20 ▼ Depth (ft bgs) 19.04

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
1 SS	75	1 1 4 5	0	**TOPSOIL AND FILL** grass, poorly sorted sand, few silt, trace gravel, very dark brown (10YR 2/2), damp, loose to very loose, grades to poorly graded sand with gravel.				NA	
			2	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse angular to sub-rounded sand, little to some fine to coarse sub-rounded to sub-angular gravel, strong brown (7.5YR 4/6), damp, loose.					
2 SS	75	4 4 3 8	4	Same as above.	SW			NA	
			6						
			8						
3 SS	50	3 10 12 14	10	**WELL GRADED SAND** mostly fine to coarse sub-rounded to rounded sand, trace fine to coarse sub-rounded to sub-angular gravel, strong brown (7.5YR 4/6), damp, medium dense. Grades to brown (7.5YR 5/3) at 10.5 ft bgs.				NA	
			12		SW				
4 SS	75	6 13 12 12	14	Change to trace sub-rounded to rounded gravel.				NA	

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

Signature: Stacy Metz

Checked By: Stacy Metz

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WELL CONSTRUCTION LOG

WELL NO. MW-25s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			18		SW				
5 SS	100	8 9 14 9	20	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sub-rounded to sub-angular sand, little fine to coarse sub-rounded to sub-angular gravel, dark grayish brown (10YR 4/2), damp to saturated, medium dense.				NA	
			22						
6 SS	40	2 4 6 7	24	Change to saturated, loose to medium dense.	SW			NA	
			26						
			28						
7 SS	50	1 2 4 5	30	**WELL GRADED SAND** mostly fine to coarse sub-rounded to sub-angular sand, trace fine to coarse sub-rounded to sub-angular gravel, gray (7.5YR 5/1), saturated, loose.				NA	
			32		SW				
8 SS	40	1 2 3 6	34	Change to sub-rounded to rounded sand, no gravel.				NA	
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-25s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			38						
9 SS	75	3 5 14 23	40	Change to trace fine to coarse sub-rounded to sub-angular gravel, medium dense to dense.	SW			NA	
			42						
10 SS	80	3 4 10 15	44	Same as above, gravel content and density increases with depth.				NA	
			46	**POORLY GRADED SAND WITH GRAVEL** mostly fine to coarse sub-rounded to sub-angular sand, some fine to coarse sub-rounded to sub-angular gravel, gray (7.5YR 5/1), saturated, medium dense.	SP				
			48						Groundwater sample collected from 46 to 51 ft bgs at 11:35
11 SS	0	18 15 25 17	50					NA	No recovery due to obstruction
			52						Change in stiffness noted by driller
12 SS		10 11 18 22		**LEAN CLAY** mostly clay, trace coarse sand, trace gravel, medium plasticity, dark gray (10 YR 4/1), saturated, hard.	CL			NA	pp > 4.5 tsf
13 ST	0		54					NA	Shelby tube damaged, no recovery
			56	End of boring at 56.0 feet below ground surface.					
			58						

SOIL BORING WELL CONSTRUCTION LOG 8070.07.GPJ RMT_CORP.GDT 8070.07 2/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company			WELL ID: MW-25s
PROJ. NO: 8070.07	DATE INSTALLED: 11/24/2009	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
798.66	0.0	GROUND SURFACE
798.23	0.4	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
19.60		RISER PIPE LENGTH
	16.0	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	18.0	BENTONITE SEAL
778.63	20.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		SCREEN LENGTH
773.63	25.0	BOTTOM OF SCREEN
	25.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
742.63	56.0	HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	8.5	IN. FROM	0	TO	54 FT.
	3	IN. FROM	54	TO	56 FT.
SURF. CASING DIAMETER:	9	IN. FROM	0	TO	1 FT.
		IN. FROM		TO	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.5 HOURS

WATER REMOVED: 55 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	24.89	T/PVC	12/2/2009	16:00
DTB AFTER DEVELOPING:	25.05	T/PVC	12/2/2009	16:26
SWE BEFORE DEVELOPING:	18.74	T/PVC	12/2/2009	16:00
SWE AFTER DEVELOPING:	18.76	T/PVC	12/2/2009	16:26
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-26s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/31/10	3/31/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	806.3	805.73	33.0	6.25

Boring Location: In ROW on west side of Evans Street, approximately 200 feet north of Russell Road

Personnel: Logged By - John Bacon; Driller - Rob Bashaw

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
White Drilling: Date/Time 3/31/10 00:00 ▽ Depth (ft bgs) 28
After Drilling: Date/Time 3/31/10 10:35 ▼ Depth (ft bgs) 26.35

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**FILL** organics, sand, gravel, silt, dark brown (10YR 3/3), no odor, damp.				Hand Auger to 4 feet below ground surface to clear utilities.
1 HA	100		2	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some gravel, dark brown, no odor, damp, loose. Change to strong brown (7.5YR 5/6).	SW			
2 GP	50		4	**SANDY SILT** mostly silt, some sand, few gravel, strong brown (7.5YR 5/6), no odor, damp.	ML			
3 GP	75		8	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some gravel, trace silt, brown (7.5YR 4/3), no odor, damp, loose. Same as above.	SW			
4 GP	65		12	Same as above.				
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-26s

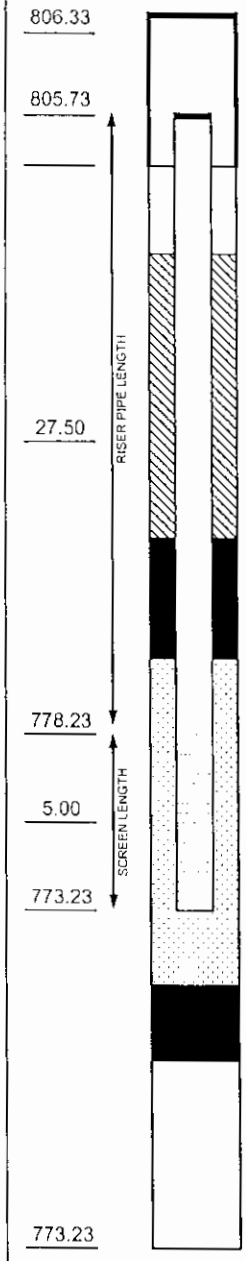
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Same as above.	SW			
5 GP	60		18	**WELL GRADED SAND** mostly fine to coarse sand, few gravel, trace silt, yellowish brown (10YR 5/6), no odor, damp, loose.				
			20	Change to trace gravel.				
6 GP	70		22					
			24	Same as above.				
7 GP	75		26	▼	SW			
			28	Change to brown (7.5YR 5/2). ▽ Change to saturated.				
8 GP	75		30					
			32					Blind drill from 32 to 33 feet below ground surface.
				End of boring at 33 feet below ground surface.				
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/28/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company			WELL ID: MW-26s
PROJ. NO: 8070.07	DATE INSTALLED: 3/31/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
806.33	0.0 GROUND SURFACE
805.73	0.6 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
27.50	RISER PIPE LENGTH
	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	25.0 BENTONITE SEAL
778.23	28.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
773.23	33.0 BOTTOM OF SCREEN
	33.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
773.23	33.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 6.25 IN. FROM 0 TO 33 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 8 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 1 HOURS

WATER REMOVED: 20 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	33.76	T/PVC	3/31/2010	10:58
DTB AFTER DEVELOPING:	33.91	T/PVC	4/2/2010	7:50
SWE BEFORE DEVELOPING:	26.35	T/PVC	3/31/2010	10:58
SWE AFTER DEVELOPING:	26.09	T/PVC	4/2/2010	7:50
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

WELL NO. MW-27s

Page 1 of 1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/18/10	3/18/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	781.8	781.39	12.0	4.25

Boring Location:	Personnel	Drilling Equipment:
Approximately 150 feet north of the intersection of Russell Road and Maumee Street, on the west side of Maumee Street	Logged By - John Bacon Driller - John Verrett	CME 1050 ATV

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 3/18/10 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time 3/18/10 15:54 ▼ Depth (ft bgs) 3.08

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				Hand Auger to 4 feet below ground surface to clear utilities.
			2	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, dark grayish brown (10YR 4/2), no odor, damp to saturated, medium dense.	SW			
			4	Same as above, saturated.				Blind drill to 12 feet below ground surface. Lithology taken from MW-27d.
			6	**LEAN CLAY** mostly clay, some silt, low plasticity, dark grayish brown (10YR 4/2), damp, stiff.	CL			
			8	▽ Change to saturated.				Driller noted saturation at approximately 7 feet below ground surface
			10	**WELL GRADED GRAVEL WITH SAND** mostly fine to coarse rounded to angular gravel, some sand, dark grayish brown (10YR 4/2), no odor, saturated, medium dense.	GW			
			12	End of boring at 12 feet below ground surface.				
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/28/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-27s
PROJ. NO:	8070.07	DATE INSTALLED:	3/18/2010 INSTALLED BY: John Bacon		CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
781.77	0.0	GROUND SURFACE
781.39	0.4	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
6.50		RISER PIPE LENGTH
	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	5.0	BENTONITE SEAL
774.89	7.0	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
769.89	12.0	BOTTOM OF SCREEN
	12.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
769.89	12.0	HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.2 HOURS

WATER REMOVED: 55 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brownish Gray

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	12.19	T/PVC	3/18/2010	15:54
DTB AFTER DEVELOPING:	12.19	T/PVC	3/18/2010	16:06
SWE BEFORE DEVELOPING:	3.08	T/PVC	3/18/2010	15:54
SWE AFTER DEVELOPING:	3.13	T/PVC	3/18/2010	16:06
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

WELL NO. MW-27d

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Monitoring Well Installation	3/18/10	3/18/10	8070.07

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	781.8	781.40	45.0	4.25

Boring Location	Personnel	Drilling Equipment
Approximately 150 feet north of the intersection of Russell Road and Maumee Street, on the west side of Maumee Street	Logged By - John Bacon Driller - John Verrett	CME 1050 ATV

Civil Town/City/or Village	County	State	Water Level Observations
Tecumseh	Lenawee	MI	While Drilling: Date/Time 3/18/10 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time 3/18/10 14:54 ▼ Depth (ft bgs) 23

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				Hand Auger to 4 feet below ground surface to clear utilities.
1 HA	100		2	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, dark grayish brown (10YR 4/2), no odor, damp to saturated, medium dense.	SW			
2 SS	75	3 5 5 8	4	Same as above, saturated.				
			6	**LEAN CLAY** mostly clay, some silt, low plasticity, dark grayish brown (10YR 4/2), damp, stiff.	CL			
				▽ Change to saturated.				Driller noted saturation at approximately 7 feet below ground surface
3 SS	50	3 5 6 5	8	**WELL GRADED GRAVEL WITH SAND** mostly fine to coarse rounded to angular gravel, some sand, dark grayish brown (10YR 4/2), no odor, saturated, medium dense.	GW			
			10					
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-27d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			14	Change to loose.	GW			
4 SS	50	2 3 5 6						
			16	**LEAN CLAY** mostly clay, few silt, trace gravel, low to medium plasticity, dark gray (10YR 4/1), no odor, saturated, stiff. Change to stiff to very stiff.				Sample continuously to determine thickness of clay layer
5 SS	60	3 5 8 9						
			18	Same as above.				
6 SS		3 6 7 12						
			20	Change to very stiff.				
7 SS	100	5 6 9 10			CL			
			22	Change to very stiff to hard.				
8 SS	100	4 7 13 19		▼				
			24	Same as above.				
9 SS	100	4 7 15 18						
			26	Same as above.				
10 SS	100	5 4 11 15						
			28	**POORLY GRADED SAND** mostly fine to medium sand, trace silt, dark yellowish brown (10YR 4/4), no odor, saturated, medium dense. Change to medium dense to dense.	SP			
11 SS	80	7 13 15 17						
			30					

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-27d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			32					
12 SS	50	10 11 15 26	34	Same as above.	SP			
			36					
			38					
13 SS		6 6 7 9	40	Same as above.				
			42	**WELL GRADED GRAVEL WITH SAND** mostly fine to coarse gravel, some fine to coarse sand, dark grayish brown (10YR 4/2), no odor, saturated, medium dense.	GW			
14 SS		3 5 9 15	44	**LEAN CLAY** mostly clay, few silt, trace sand, medium plasticity, dark gray (10YR 4/1), no odor, saturated, stiff to very stiff.	CL			Driller noted change in drilling pressure at 42.5 feet below ground surface.
			46	End of boring at 45 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company			WELL ID: MW-27d
PROJ. NO: 8070.07	DATE INSTALLED: 3/18/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
781.82	0.0	GROUND SURFACE
781.40	0.4	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
37.00		RISER PIPE LENGTH
	32.5	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	35.0	BENTONITE SEAL
744.40	37.5	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
739.40	42.5	BOTTOM OF SCREEN
	45.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: WASHED SAND
736.90	45.0	HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 43 FT.
1.75 IN. FROM 43 TO 45 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.4 HOURS

WATER REMOVED: 55 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Gray

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	42.53	T/PVC	3/18/2010	14:54
DTB AFTER DEVELOPING:	42.58	T/PVC	3/18/2010	15:41
SWE BEFORE DEVELOPING:	23.78	T/PVC	3/18/2010	14:54
SWE AFTER DEVELOPING:	23.67	T/PVC	3/18/2010	15:41
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-28s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/22/10	3/22/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	805.1	804.68	30.0	4.25

Boring Location: Southwest corner of Evans Street and Patterson Street

Personnel
Logged By - Brent Ritchie
Driller - John Verrett

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/22/10 00:00 ▽ Depth (ft bgs) 25.75
After Drilling: Date/Time 3/23/10 08:45 ▼ Depth (ft bgs) 25.53

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			2					Hand Auger to 4 feet below ground surface to clear utilities.
			4	**WELL GRADED GRAVEL WITH SAND** mostly fine to medium gravel, little coarse gravel, some fine to coarse sand, trace to few clay, trace to few silt, yellowish brown (10YR 5/4), damp, medium dense.	GW			Blind drill to 30 feet below ground surface. Lithology taken from MW-28d.
			6					
			8					
			10	**POORLY GRADED SAND WITH GRAVEL** mostly coarse sand, little fine to coarse gravel, trace silt, yellowish brown (10YR 5/4), moist, medium dense.	SP			
			12					
			14	Change to few to little fine to coarse gravel.				

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Checked By: Stacy Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
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WELL CONSTRUCTION LOG

RMT

WELL NO. MW-28s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18					
				Change to little fine to coarse gravel, few fine to medium sand, trace clay, medium dense to dense.				
			20		SP			
			22					
			24	**POORLY GRADED SAND** mostly coarse sand, little fine to medium sand, trace to few fine to coarse gravel, trace clay, grayish brown (10YR 5/2), moist, medium dense.				
				Change to saturated.				
			26		SP			
			28	Change to trace fine to coarse gravel.				
			30	End of boring at 30 feet below ground surface.				
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-28s
PROJ. NO:	8070.07	DATE INSTALLED:	3/22/2010 INSTALLED BY: Brent Ritchie		CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
805.11	0.0	GROUND SURFACE
804.68	0.4	TOP OF CASING
	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
24.70	20.9	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.8	BENTONITE SEAL
779.98	25.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
774.98	30.0	BOTTOM OF SCREEN
	30.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
774.98	30.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 30 FT.
____ IN. FROM ____ TO ____ FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 55 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Cloudy

COLOR BEFORE: Dark Yellowish Brown

CLARITY AFTER: Slightly Cloudy

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NM	T/PVC	--	--
DTB AFTER DEVELOPING:	NM	T/PVC	--	--
SWE BEFORE DEVELOPING:	NM	T/PVC	--	--
SWE AFTER DEVELOPING:	NM	T/PVC	--	--
OTHER DTB:	29.67	T/PVC	3/23/2010	8:45
OTHER SWE:	25.53	T/PVC	3/23/2010	8:45

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-28d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/22/10	3/22/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	805.2	804.92	57.0	4.25

Boring Location: Southwest corner of Evans Street and Patterson Street

Personnel
Logged By - Brent Ritchie
Driller - John Verrett

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/22/10 00:00 ▽ Depth (ft bgs) 25.75
After Drilling: Date/Time 3/23/10 08:48 ▼ Depth (ft bgs) 25.81

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			2					Hand Auger to 4 feet below ground surface to clear utilities.
1 SS	60	6 9 10 10	4	**WELL GRADED GRAVEL WITH SAND** mostly fine to medium gravel, little coarse gravel, some fine to coarse sand, trace to few clay, trace to few silt, yellowish brown (10YR 5/4), damp, medium dense.	GW			
			6					
			8					
2 SS	50	4 6 7 7	10	**POORLY GRADED SAND WITH GRAVEL** mostly coarse sand, little fine to coarse gravel, trace silt, yellowish brown (10YR 5/4), moist, medium dense.	SP			
			12					
3 SS	70	6 6 7 6	14	Change to few to little fine to coarse gravel.				

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature: _____

Checked By: Stacy Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-28d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18					
4 SS	70	10 10 16 16	20	Change to little fine to coarse gravel, few fine to medium sand, trace clay, medium dense to dense.	SP			
			22					
5 SS	80	6 7 9 9	24	**POORLY GRADED SAND** mostly coarse sand, little fine to medium sand, trace to few fine to coarse gravel, trace clay, grayish brown (10YR 5/2), moist, medium dense.				
			26	Change to saturated.				
			28					
6 SS	70	2 4 6 5	30	Change to trace fine to coarse gravel.	SP			
			32					
7 SS	50	2 3 3 6	34	**WELL GRADED SAND** mostly fine to coarse sand, trace to few fine to medium gravel, trace silt, grayish brown (10YR 5/2), saturated, loose.	SW			
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT

WELL CONSTRUCTION LOG

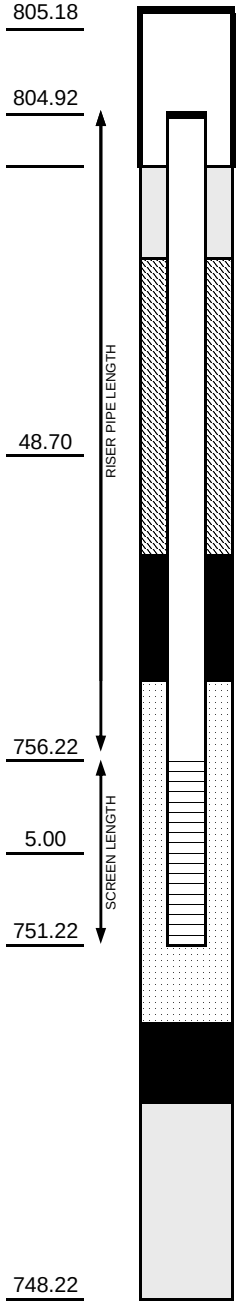
WELL NO. MW-28d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38		SW			
8 SS	25	3 5 7 9	40	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little fine to medium gravel, trace silt, grayish brown (10YR 5/2), saturated, medium dense.				
			42		SW			
9 SS	75	1 1 2 3	44	**WELL GRADED SAND** mostly fine to coarse sand, trace fine to medium gravel, trace silt, grayish brown (10YR 5/2), saturated, very loose to loose.				
			46		SW			
			48					
10 SS	50	9 24 27 20	50	**SILTY SAND** mostly fine sand, little to some silt, trace fine gravel, trace medium sand, gray (10YR 5/1), saturated, dense to very dense.				
			52		SM			
			54					Cobble in core at typical sample interval, 73 blows per 1-inch, auger reset 1 foot lower
11 SS	50	7 11 15 32	56	**LEAN CLAY** mostly clay, some silt, few fine gravel, trace fine sand, low plasticity, gray (10YR 5/1), moist, very stiff to hard.	CL			
				End of boring at 57 feet below ground surface.				
			58					

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	**MW-28d**
PROJ. NO:	8070.07	DATE INSTALLED:	3/22/2010	INSTALLED BY: Brent Ritchie	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
805.18	0.0	GROUND SURFACE
804.92	0.3	TOP OF CASING
	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
		GROUT/BACKFILL METHOD: TREMIE
48.70		RISER PIPE LENGTH
	44.0	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	47.0	BENTONITE SEAL
756.22	49.0	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
751.22	54.0	BOTTOM OF SCREEN
	54.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
748.22	57.0	HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	4.25	IN.	FROM	0	TO	55	FT.
	2	IN.	FROM	55	TO	57	FT.
SURF. CASING DIAMETER:	9	IN.	FROM	0	TO	1	FT.
		IN.	FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 50 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Cloudy

COLOR BEFORE: Dark Yellowish Brown

CLARITY AFTER: Slightly Cloudy

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NM	T/PVC	--	--
DTB AFTER DEVELOPING:	NM	T/PVC	--	--
SWE BEFORE DEVELOPING:	NM	T/PVC	--	--
SWE AFTER DEVELOPING:	NM	T/PVC	--	--
OTHER DTB:	53.56	T/PVC	3/23/2010	8:48
OTHER SWE:	25.81	T/PVC	3/23/2010	8:48

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-29s

Facility/Project Name:		Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation		3/17/10	3/17/10	8070.07
Drilling Firm:	**Drilling Method:**	**Surface Elev. (ft)**	**TOC Elevation (ft)**	**Total Depth (ft bgs)** / **Borehole Dia. (in)**
Stearns Drilling	HSA	788.3	788.16	19.0 / 4.25

Boring Location: Northwest corner of Pottawatamie Street and Division Street

Personnel: Logged By - John Bacon; Driller - John Verrett

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/16/10 00:00 ▽ Depth (ft bgs) 16
After Drilling: Date/Time 3/17/10 09:18 ▼ Depth (ft bgs) 16.06

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0					Hand Auger to 4 feet below ground surface to clear utilities.
			2					
			4	**SANDY SILT** mostly silt, some sand, few gravel, non-plastic, light gray (7.5YR 7/1), no odor, damp, medium dense.	ML			Blind drill to 14 feet below ground surface. Lithology taken from MW-29d.
			6					
			8					
			10	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, yellowish brown (10YR 5/6), no odor, damp, medium dense.	SW			
			12					

Signature:

Checked By: Stacy Metz

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-29s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			14		SW			
1 SS	80	4 7 8 8		**WELL GRADED SAND WITH SILT** mostly fine to coarse sand, few silt, dark grayish brown (10YR 4/2), no odor, damp, medium dense. Trace fine gravel from 15.8 to 16 feet below ground surface.	SW-SM			
2 SS	80	6 8 8 6	16	▼ Change to saturated.				
3 SS	100	2 1	18	**LEAN CLAY** mostly clay, some silt, trace sand, low to medium plasticity, dark gray, no odor, damp, stiff to very stiff.	CL			
				End of boring at 19.0 feet below ground surface.				
			20					
			22					
			24					
			26					
			28					
			30					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-29s
PROJ. NO:	8070.07	DATE INSTALLED:	3/17/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
788.26	0.0 GROUND SURFACE
788.16	0.1 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
12.50	RISER PIPE LENGTH
	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	11.0 BENTONITE SEAL
775.66	13.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
770.66	18.0 BOTTOM OF SCREEN
	19.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
769.66	19.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 18 FT.
1.75 IN. FROM 18 TO 19 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.5 HOURS

WATER REMOVED: 40 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brownish Gray

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	18.21	T/PVC	3/17/2010	9:18
DTB AFTER DEVELOPING:	18.24	T/PVC	3/17/2010	11:27
SWE BEFORE DEVELOPING:	16.06	T/PVC	3/17/2010	9:18
SWE AFTER DEVELOPING:	16.07	T/PVC	3/17/2010	11:27
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-29d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/16/10	3/16/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	788.5	788.16	67.0	4.25

Boring Location: Northwest corner of Pottawatamie Street and Division Street

Personnel
Logged By - John Bacon
Driller - John Verrett

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/16/10 00:00 ▽ Depth (ft bgs) 20.8
After Drilling: Date/Time 3/16/10 16:02 ▼ Depth (ft bgs) 25.13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			2					Hand Augar to 4 feet below ground surface to clear utilities.
1 SS	75	4 5 6 6	4	**SANDY SILT** mostly silt, some sand, few gravel, non-plastic, light gray (7.5YR 7/1), no odor, damp, medium dense.	ML			
			6					
			8					
2 SS	90	5 8 9 8	10	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, yellowish brown (10YR 5/6), no odor, damp, medium dense.				
			12		SW			
3 SS	75	7 7 13 12	14	Same as above.				

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-29d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18	Change dark grayish brown (10YR 5/2).	SW			Driller notes a change in drilling pressure
4 SS	100	2 4 7 10	20	**LEAN CLAY** mostly clay, some silt, trace sand, low to medium plasticity, dark gray, no odor, damp, stiff to very stiff.	CL			
			22	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, trace clay, dark grayish brown (10YR 4/2), no odor, saturated, medium dense.				
5 SS	75	12 7 8 10	24	Same as above.	SW			
			26					
			28					
6 SS	75	2 3 3 4	30	Same as above.				
			32	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, trace silt, trace clay, dark grayish brown (10YR 4/2), no odor, saturated, loose.	SW			
7 SS	75	6 7 7 7	34	**WELL GRADED GRAVEL** mostly fine to coarse, sub-angular to sub-rounded gravel, few sand, dark gray (10YR 4/1), no odor, saturated, medium dense.	GW			
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-29d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38		GW			
8 SS	80	5 8 13 20	40	**WELL GRADED SAND** mostly fine to coarse sand, few fine to coarse gravel, dark gray (10YR 4/1), no odor, saturated, medium dense.	SW			
				SANDY SILT mostly silt, some sand, trace clay, dark gray (10YR 4/1), no odor, saturated, medium dense to dense.	ML			
9 SS	60	8 25 26 43	42	**SILTY SAND** mostly fine sand, some silt, trace clay, gray (10YR 5/1), no odor, saturated, dense to very dense.				
10 SS	75	10 12 13 24	44	Change to few clay.				
11 SS	80	9 11 32 42	46	Same as above.				
12 SS	90	6 10 17 24	48	Same as above.				
13 SS	90	7 20 32 36	50	Same as above.	SM			
14 SS	100	29 26 36 30	52	Same as above.				
15 SS	100	7 19 31 30	54	Same as above.				
16 SS	100	4 9 23 26	56	Same as above.				
17 SS	90	7 17	58	Same as above.				

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-29d

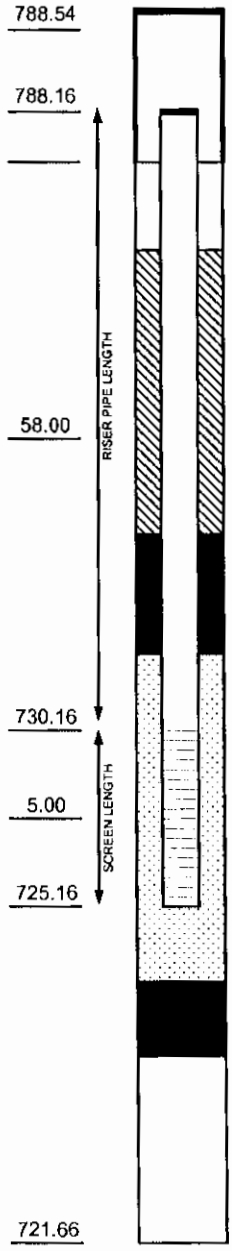
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
		27 28						
18 SS	90	8 28 41 45	60	Same as above.	SM			
19 SS	90	19 30 37 42	62	Same as above.				
20 SS	100	10 11 12 13	64	Same as above. **LEAN CLAY** mostly clay, some silt, trace sand, low to medium plasticity, dark gray (10YR 4/1), no odor, damp, very stiff.	CL			
21 SS	100	4 6 9 11	66	Same as above.				
			68	End of boring at 67.0 feet below ground surface.				
			70					
			72					
			74					
			76					
			78					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-29d
PROJ. NO:	8070.07	DATE INSTALLED:	3/16/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



788.54	0.0 GROUND SURFACE
788.16	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
58.00	
	53.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	55.0 BENTONITE SEAL
730.16	58.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
725.16	63.5 BOTTOM OF SCREEN
	67.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
721.66	67.0 HOLE BOTTOM

NOTES:

5 feet of fines in screen

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 65 FT.
1.75 IN. FROM 65 TO 67 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 2.3 HOURS

WATER REMOVED: 110 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Brownish Gray

CLARITY AFTER: Cloudy

COLOR AFTER: Brownish Gray

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	58.98	T/PVC	3/16/2010	16:02
DTB AFTER DEVELOPING:	NM	T/PVC	--	--
SWE BEFORE DEVELOPING:	25.13	T/PVC	3/16/2010	16:02
SWE AFTER DEVELOPING:	25.10	T/PVC	3/17/2010	12:24
OTHER SWE:	24.14	T/PVC	3/17/2010	9:20
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-30s

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Monitoring Well Installation	3/18/10	3/18/10	8070.07

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	788.0	787.69	16.0	4.25

Boring Location: Northeast corner of Wyandotte Street and Cummins Street

Personnel: Logged By - John Bacon; Driller - John Verrelt

Drilling Equipment: CME 1050 ATV

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/17/10 00:00 ▽ Depth (ft bgs) 8
After Drilling: Date/Time 3/18/10 08:39 ▼ Depth (ft bgs) 9.99

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0					Hand Auger to 4 feet below ground surface to clear utilities.
			2					
			4	**SILT** mostly silt, few sand, little clay, mottled gray (7.5YR 6/1) and brown (7.5YR 5/2), no odor, damp to saturated, medium dense.	ML			Blind drill to 16 feet below ground surface. Lithology taken from MW-30d.
			6	**SILT WITH SAND** mostly silt, little sand, little clay, mottled gray (7.5YR 6/1) and brown (7.5YR 5/2), no odor, damp to saturated, medium dense.	ML			Driller observated saturated zone from 6.0 to 9.5 feet below ground surface.
			8	▽ Same as above, damp.				
			10	▼ **LEAN CLAY** mostly clay, some silt, low plasticity, dark gray (10YR 4/1), no odor, damp to moist, stiff.	CL			
			12					
			14	**WELL GRADED SAND WITH SILT** mostly fine to coarse sand, few silt, dark grayish brown (10YR 4/2), no odor, saturated, medium dense.	SW-SM			
			16	End of boring at 16 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-30s
PROJ. NO:	8070.07	DATE INSTALLED:	3/18/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
787.96	0.0 GROUND SURFACE
787.69	0.3 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
10.50	7.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	9.0 BENTONITE SEAL
777.19	11.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
772.19	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
772.19	16.0 HOLE BOTTOM

RISER PIPE LENGTH: 10.50
SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC
PIPE SCHEDULE: 40
PIPE JOINTS: THREADED O-RINGS
SOLVENT USED? NO
SCREEN TYPE: 2-INCH PVC
SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	4.25	IN. FROM	0	TO	16 FT.
		IN. FROM		TO	FT.
SURF. CASING DIAMETER:	9	IN. FROM	0	TO	1 FT.
		IN. FROM		TO	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP
TIME DEVELOPING: 0.5 HOURS
WATER REMOVED: 25 GALLONS
WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy
COLOR BEFORE: Brownish Gray
CLARITY AFTER: Clear
COLOR AFTER: None
ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	15.40	T/PVC	3/18/2010	8:39
DTB AFTER DEVELOPING:	15.42	T/PVC	3/18/2010	9:49
SWE BEFORE DEVELOPING:	9.99	T/PVC	3/18/2010	8:39
SWE AFTER DEVELOPING:	NM	T/PVC	--	--
OTHER SWE:	9.89	T/PVC	3/23/2010	10:33
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO
PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO
LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-30d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	3/17/10	3/17/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Stearns Drilling	HSA	787.9	787.66	32.5	4.25

Boring Location:	Personnel	Drilling Equipment:
Northeast corner of Wyandotte Street and Cummins Street	Logged By - John Bacon Driller - John Verrett	CME 1050 ATV

Civil Town/City/or Village:	County:	State:	Water Level Observations:			
Tecumseh	Lenawee	MI	While Drilling:	Date/Time 3/17/10 00:00	▽ Depth (ft bgs)	8
			After Drilling:	Date/Time 3/17/10 16:06	▼ Depth (ft bgs)	9.91

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			2					Hand Auger to 4 feet below ground surface to clear utilities.
			4					
1 SS	100	5 8 9 8		**SILT** mostly silt, few sand, little clay, mottled gray (7.5YR 6/1) and brown (7.5YR 5/2), no odor, damp to saturated, medium dense.	ML			
			6	**SILT WITH SAND** mostly silt, little sand, little clay, mottled gray (7.5YR 6/1) and brown (7.5YR 5/2), no odor, damp to saturated, medium dense.				Driller observed saturated zone from 6.0 to 9.5 feet below ground surface.
			8 ▽		ML			
				Same as above, damp.				
2 SS	100	3 5 6 6	10	▼ **LEAN CLAY** mostly clay, some silt, low plasticity, dark gray (10YR 4/1), no odor, damp to moist, stiff.				
			12		CL			
			14					
3 SS	50	5 8 8 7		**WELL GRADED SAND WITH SILT** mostly fine to coarse sand, few silt, dark grayish brown (10YR 4/2), no odor, saturated, medium dense.	SW-SM			

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-30d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18		SW-SM			Driller noted a slight increase in drilling pressure from 17.0 to 17.5 feet below ground surface.
4 SS	100	4 5 5 6	20	Change to brown (10YR 4/3).				
			22	**WELL GRADED SAND WITH SILT AND GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, few silt, dark grayish brown (10YR 4/3), no odor, saturated, medium dense.	SP-SM			
5 SS	80	3 5 8 9	24	**WELL GRADED GRAVEL WITH SAND** mostly fine to coarse gravel, some fine to coarse sand, very dark grayish brown (10YR 3/2), no odor, saturated, medium dense.	GW			
			26					
			28					
6 SS	90	2 3 3 4	30	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some gravel, very dark grayish brown (10YR 3/2), saturated, loose.	SW			
7 SS	75	4 6 10	32	**LEAN CLAY** mostly clay, few silt, trace sand, low to medium plasticity, dark gray (10YR 4/1), no odor, saturated, medium stiff to stiff. Same as above.	CL			
			34	End of boring at 32.5 feet below ground surface.				
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.07_2010.GPJ RMT_CORP.GDT 8070.07 4/26/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-30d
PROJ. NO:	8070.07	DATE INSTALLED:	3/17/2010	INSTALLED BY: John Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
787.93	0.0 GROUND SURFACE
787.66	0.3 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: BENTONITE SLURRY
	GROUT/BACKFILL METHOD: TREMIE
25.00	RISER PIPE LENGTH
	20.5 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.5 BENTONITE SEAL
762.66	25.5 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
757.66	30.5 BOTTOM OF SCREEN
	32.5 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
755.66	32.5 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 31 FT.
1.75 IN. FROM 31 TO 32.5 FT.

SURF. CASING DIAMETER: 9 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 55 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Cloudy

COLOR BEFORE: Gray

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	29.99	T/PVC	3/17/2010	16:06
DTB AFTER DEVELOPING:	30.01	T/PVC	3/18/2010	8:42
SWE BEFORE DEVELOPING:	9.91	T/PVC	3/17/2010	16:06
SWE AFTER DEVELOPING:	9.78	T/PVC	3/18/2010	8:42
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

WELL NO. MW-31

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Monitoring Well Installation	6/16/10	6/16/10	8070.07

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push/HSA	782.6	782.36	40.0	2-8

Boring Location: On Birchfield property near B-16
N: 180918.42 E: 13241112.46

Personnel
Logged By - Stacy Metz
Driller - Ray Bashaw

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 6/16/10 00:00 ▽ Depth (ft bgs) 34
After Drilling: Date/Time 6/16/10 15:54 ▼ Depth (ft bgs) 32.55

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				TOPSOIL mostly fine sand, little clay, few silt, trace gravel, slightly plastic, dark brown (7.5 YR 4/2), no odor, moist, medium dense.				
1 GP	73		2	**SANDY LEAN CLAY** mostly clay, some fine to coarse sand, plastic, yellowish brown (10YR 5/6), no odor, moist, very stiff.	CL			pp = 3.5 tsf
				GRAVELLY LEAN CLAY mostly clay, some fine to coarse gravel, little fine to coarse sand, plastic, dark yellowish brown (10YR 4/6), no odor, moist, stiff.	CL			pp = 2.0 tsf
2 GP	63		4 6	**SANDY LEAN CLAY** mostly clay, some fine sand, few silt, few fine to coarse gravel, very plastic, dark yellowish brown (10YR 4/6), no odor, damp, very stiff to hard. Change to slightly plastic, dry to damp at 4.0 feet. 4-inch layer of gravel at 7.0 feet.	CL			pp = 2.5 tsf pp = 4.0 tsf pp = 4.0 tsf
3 GP	100		8 10	Change to brown (10YR 4/3). 2-inch layer of fine to medium rounded sand at 11.0 feet. Change to dark grayish brown (2.5 YR 4/2) at 11.2 feet.				pp = 4.0 tsf pp = 2.75 tsf

Signature: [signature]

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
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Checked By: Brent Ritchie

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT CORP.GDT 8070.07 6/22/10

WELL CONSTRUCTION LOG

WELL NO. MW-31

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Same as above.				pp = 4.0 tsf
4 GP	100		14	Change to hard.	CL			pp = 4.5 tsf
				WELL GRADED SAND WITH GRAVEL mostly fine to coarse sand, little angular gravel, dark yellowish brown (10YR 4/6), no odor, dry to damp, very dense.	SW			
			16	**GRAVELLY LEAN CLAY** mostly clay, some sub-rounded to sub-angular fine to coarse gravel, few sand, plastic, dark yellowish brown (10YR 4/6), no odor, dry to damp, stiff.	CL			
5 GP	70		18	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little fine to coarse sub-rounded to sub-angular gravel, brown (10YR 5/3), no odor, dry, medium dense. Change to some sub-rounded to sub-angular fine to coarse gravel.				
			20	Same as above.				
6 GP	65		22		SW			
			24	Change to little sub-rounded to sub-angular fine to coarse gravel, dense.				
7 GP	50		26					

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 6/22/10

WELL CONSTRUCTION LOG

WELL NO. MW-31

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			28	Same as above.				
8 GP	60		30		SW			
			32	Same as above.				
				Change to moist.				
9 GP	55		34	**WELL GRADED GRAVEL WITH SAND** mostly fine to coarse rounded to sub-angular gravel, some fine to coarse sand, dark yellowish brown (10YR 4/4), no odor, saturated, medium dense.				
			36	Same as above.	GW			
10 GP	100		38	**LEAN CLAY WITH SAND** mostly clay, little fine to coarse sand, slightly plastic, dark yellowish brown (10YR 3/6), no odor, moist to saturated, very stiff to hard.	CL			pp = 4.5 tsf
				LEAN CLAY mostly clay, few fine to coarse sand, plastic, dark grayish brown (10YR 4/2), no odor, saturated, very stiff.	CL			pp = 3.5 tsf
			40	End of boring at 40 feet below ground surface.				
			42					

SOIL BORING WELL CONSTRUCTION LOG 8070.07 2010.GPJ RMT_CORP.GDT 8070.07 6/22/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-31
PROJ. NO:	8070.07	DATE INSTALLED:	6/16/2010 INSTALLED BY: S. Metz		CHECKED BY: B. Ritchie

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
782.60	0.0 GROUND SURFACE
782.36	0.3 TOP OF CASING
	0.8 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NATIVE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
33.00	RISER PIPE LENGTH
	6.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	28.0 BENTONITE SEAL
749.36	33.3 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
744.36	38.3 BOTTOM OF SCREEN
	38.3 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
744.36	40.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 6.25 IN. FROM 0 TO 38.3 FT.
2 IN. FROM 38.3 TO 40 FT.

SURF. CASING DIAMETER: 8 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND BAIL

TIME DEVELOPING: 1 HOURS

WATER REMOVED: 14 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Cloudy

COLOR BEFORE: Brown

CLARITY AFTER: Very Cloudy

COLOR AFTER: Brown

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	38.10	T/PVC	6/16/2010	15:54
DTB AFTER DEVELOPING:	37.90	T/PVC	6/16/2010	17:02
SWE BEFORE DEVELOPING:	32.55	T/PVC	6/16/2010	15:54
SWE AFTER DEVELOPING:	32.56	T/PVC	6/16/2010	17:02
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-32s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/15/10	9/16/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push/HSA	803.0	802.59	28.0	2-8

Boring Location: In Building Area D, near chemical stockroom
MI St Plane - NAD83 South N: 181705.08 E: 13238331.09

Personnel
Logged By - Stacy Metz
Driller - Craig Tanicala

Drilling Equipment: Geoprobe 6610DT/Advance 66

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 9/15/10 00:00 ▽ Depth (ft bgs) 24
After Drilling: Date/Time 9/16/10 14:24 ▼ Depth (ft bgs) 23.43

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
				CONCRETE					
1 GP	5		2	**CLAYEY SAND WITH GRAVEL** mostly fine sand, little clay, little gravel, slightly plastic, brown (7.5YR 4/4), moist, slight petroleum odor, loose.	SC			0	Low recovery, soil sample collected with hand auger from 0.75-1.5 feet at 14:08 on 9/15/10
2 GP	28		4 6	Same as above.	SC			10.8	
3 GP	15		8 10	**SILTY SAND WITH GRAVEL** mostly fine sand, little silt, little gravel, trace clay, non-plastic, brown (7.5YR 4/4), moist, no odor, loose.	SM			7.3	
4 GP	50		12 14	Change to mostly fine to coarse sand, no clay, brown (7.5 YR 4/3), dry, slight petroleum odor at 12 feet below ground surface.	SM			15 19	

Signature: [signature]

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
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Checked By: John Bacon

SOIL BORING WELL CONSTRUCTION LOG 8070.12 2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-32s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
5 GP	83		18	**SILTY SAND** mostly fine to coarse sand, little silt, trace gravel, brown (7.5YR 4/3), dry to moist, slight petroleum odor, loose.				48	
								90	
			20	Change to moderate petro odor at 20 feet below ground surface.	SM				
6 GP	75		22					109	Soil sample collected from 22-24 feet at 13:40 on 9/15/10
								90.8	
			24	▽ Change to moist to wet at 23.75 feet below ground surface.					
7 GP	58		26	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, trace gravel, brown (7.5YR 4/3), saturated, no odor, loose. Change to moderate petro odor at 26 feet below ground surface.	SW				
			28	End of boring at 28.0 feet below ground surface.					
			30						
			32						
			34						
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-32s
PROJ. NO:	8070.12	DATE INSTALLED:	9/16/2010 Stacy Metz		CHECKED BY: John Bacon

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
803.00	0.0	GROUND SURFACE
802.59	0.4	TOP OF CASING
	1.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
22.50	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	21.0	BENTONITE SEAL
780.09	23.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
775.09	28.0	BOTTOM OF SCREEN
	28.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
775.1	28.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 6.25 IN. FROM 0 TO 33 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 8 IN. FROM 0 TO 1.5 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: BAIL THEN SURGE AND PUMP

TIME DEVELOPING: 0.5 + 0.25 HOURS

WATER REMOVED: 8 + 4 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Very Turbid

COLOR AFTER: Brown

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	27.60	T/PVC	9/16/2010	11:42
DTB AFTER DEVELOPING:	27.61	T/PVC	9/16/2010	14:24
SWE BEFORE DEVELOPING:	23.44	T/PVC	9/16/2010	11:42
SWE AFTER DEVELOPING:	23.43	T/PVC	9/16/2010	14:24
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-33s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/15/10	9/16/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push/HSA	799.9	799.49	28.0	2-8

Boring Location: In Building Area P, 15 ft SW of Grid Location I5
MI St Plane - NAD83 South N: 181876.31 E: 13238497.19

Personnel
Logged By - Stacy Metz
Driller - Craig Tanicala

Drilling Equipment: Geoprobe 6610DT/Advance 66

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 9/15/10 00:00 ▽ Depth (ft bgs) 22
After Drilling: Date/Time 9/16/10 15:04 ▼ Depth (ft bgs) 20.58

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			0	**CONCRETE**					
				POORLY GRADED SAND mostly fine sand, dark reddish brown (5YR 3/3), moist, no odor, medium dense.	SP			1.0	Soil sample collected from 1-3 feet at 16:14 on 9/15/10
1 GP	65		2	**GRAVELLY SILT** mostly silt, some fine to coarse subangular to angular gravel, dark reddish gray (5YR 4/2), dry to moist, no odor, dense.	ML			14.0	
				Change to black (5 YR 2.5/1) at 2.6 feet below ground surface.				84.0	
			4	**CLAYEY SAND WITH GRAVEL** mostly sand, some clay, little gravel, slightly plastic, dark reddish brown (5YR 3/2), moist, no odor, medium dense to dense.	SC			26.3	
2 GP	75							1.0	
				SILTY SAND mostly fine sand, little silt, little medium to coarse sand, few gravel, reddish brown (5YR 4/3), dry to moist, no odor, loose to medium dense.				0.6	
			6					4.2	
			8	Same as above.					
3 GP	75							16.8	
			10		SM				
								29.3	
			12	Same as above.					
								33.2	
4 GP	73		14						
								40.3	

SOIL BORING WELL CONSTRUCTION LOG 8070.12 2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature:

Checked By: John Bacon

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
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WELL CONSTRUCTION LOG

RMT

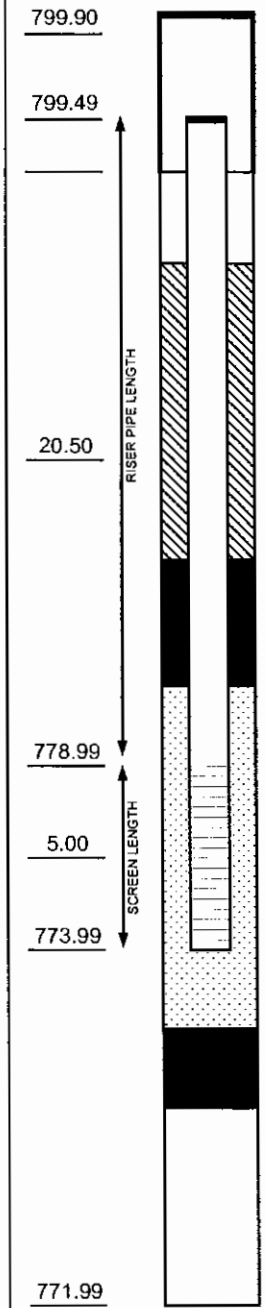
WELL NO. MW-33s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
5 GP	75		18	Same as above.	SM			24.1	
			20	Same as above.				20.6	Soil sample and DUP-01 collected from 19-22 feet at 16:32 on 9/15/10
6 GP	63		22	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some gravel, few to little silt, dark reddish brown (5YR 3/3), saturated, no odor, dense.	SW			13.2	
			24	**POORLY GRADED SAND** mostly coarse subrounded sand, some fine to medium sand, dark brown (7.5YR 3/2), saturated, no odor, medium dense.					
7 GP	78		26	Grades to mostly fine to medium sand, few to trace coarse sand at 25 feet below ground surface.	SP				
			28	End of boring at 28.0 feet below ground surface.					
			30						
			32						
			34						
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-33s
PROJ. NO:	8070.12	DATE INSTALLED:	9/16/2010 Stacy Metz		CHECKED BY: John Bacon



ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
799.90	0.0 GROUND SURFACE
799.49	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	19.0 BENTONITE SEAL
778.99	21.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
773.99	26.0 BOTTOM OF SCREEN
	26.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: WELL GRAVEL / NATURAL COLLAPSE
771.99	28.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	6.25 IN.	FROM 0	TO 26 FT.
	2 IN.	FROM 26	TO 28 FT.
SURF. CASING DIAMETER:	8 IN.	FROM 0	TO 1 FT.
	IN.	FROM	TO FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: BAIL THEN SURGE AND PUMP

TIME DEVELOPING: 0.5 + 0.3 HOURS

WATER REMOVED: 10 + 7 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	25.77	T/PVC	9/16/2010	9:55
DTB AFTER DEVELOP (w/ Bailer	25.76	T/PVC	9/16/2010	10:48
DTB AFTER DEVELOP (w/ Pump	25.76	T/PVC	9/16/2010	15:04
SWE BEFORE DEVELOPING:	20.56	T/PVC	9/16/2010	9:55
SWE AFTER DEVELOP (w/ Baile	20.56	T/PVC	9/16/2010	10:48
SWE AFTER DEVELOP (w/ Pump	20.58	T/PVC	9/16/2010	15:04

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? [✓] YES [ ] NO

PROTECTIVE COVER AND LOCK INSTALLED? [✓] YES [ ] NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-34s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/16/10	9/16/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push/HSA	803.1	802.78	28.0	2-8

Boring Location: Adjacent to SS-8 in Building Area M
MI St Plane - NAD83 South N: 180643.93 E: 13238461.45

Personnel
Logged By - Stacy Metz
Driller - Craig Tanicala

Drilling Equipment: Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 9/16/10 00:00 ▽ Depth (ft bgs) 23.5
After Drilling: Date/Time 9/16/10 17:32 ▼ Depth (ft bgs) 23.63

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			0	**CONCRETE**					
1 GP	100		2	**SILTY SAND** mostly fine sand, some silt, dark yellowish brown (10YR 4/6), dry, no odor, medium dense, fill.	SM			5.9 14.5	Soil sample collected from 0.5-2.5 feet at 13:49
2 GP	73		4 6	**SILTY LEAN CLAY** mostly clay, some silt, slightly plastic, very dark brown (10YR 2/2), dry to moist, no odor, stiff to very stiff.	CL-ML			9.6	
3 GP	75		8 10 12	**POORLY GRADED SAND WITH SILT** mostly fine to medium sand, few coarse sand, few to little silt, trace gravel, dark yellowish brown (10YR 3/6), dry, no odor, loose to medium dense. Change to few to little gravel at 8 feet below ground surface. Change to yellowish brown (10YR 5/6) at 11 feet below ground surface. Change to trace gravel at 12 feet below ground surface.	SP-SM			13.3 47.8 38.3 56.3	
4 GP	70		14	**POORLY GRADED SAND WITH SILT AND GRAVEL** mostly fine to medium sand, few coarse sand, few to little silt, little gravel, yellowish brown (10YR 5/6), dry, no odor, loose to medium dense.	SP-SM			47.1	

SOIL BORING WELL CONSTRUCTION LOG 8070.12 2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: John Bacon

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-34s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
5 GP	73		18	**POORLY GRADED SAND WITH SILT** mostly fine to medium sand, few coarse sand, few to little silt, trace gravel, yellowish brown (10YR 5/6), dry, no odor, loose to medium dense.				15.9	
								42.8	
			20	Change to few gravel at 20 feet below ground surface.					
6 GP	73							38.9	Soil sample collected from 21-23 feet at 14:10
			22	Change to little coarse sand at 22 feet below ground surface.	SP-SM				
								16.9	
			24	Change to saturated at 23.5 feet below ground surface.					
7 GP	68			Same as above.					
			26						
			28	End of boring at 28 feet below ground surface.					
			30						
			32						
			34						
			36						

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company			WELL ID:	MW-34s
PROJ. NO:	8070.12	DATE INSTALLED:	9/16/2010 Stacy Metz	CHECKED BY:	John Bacon

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
803.01	0.0	GROUND SURFACE
802.78	0.3	TOP OF CASING
	1.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
22.50	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	21.5	BENTONITE SEAL
780.28	23.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
775.28	28.0	BOTTOM OF SCREEN
	28.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
775.3	28.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	6.25	IN. FROM	0	TO	33	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	8	IN. FROM	0	TO	1.5	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND BAIL

TIME DEVELOPING: 0.75 HOURS

WATER REMOVED: 12 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Grayish Brown

CLARITY AFTER: Very Turbid

COLOR AFTER: Grayish Brown

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	27.50	T/PVC	9/16/2010	16:11
DTB AFTER DEVELOPING:	27.50	T/PVC	9/16/2010	17:32
SWE BEFORE DEVELOPING:	23.63	T/PVC	9/16/2010	16:11
SWE AFTER DEVELOPING:	23.63	T/PVC	9/16/2010	17:32
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

US EPA ARCHIVE DOCUMENT

Permeable Reactive Barrier Well Locations

Soil boring logs and well construction forms are attached for each of the 18 monitoring wells installed between February 2011 and August 2011.

WELL CONSTRUCTION LOG

RMT

WELL NO. PRB-01

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/24/11	2/24/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push/HSA	784.5	784.06	12.0	3-8

Boring Location: In ROW E of Maumee, ~810 ft S of Mohawk
N: 180835.32 E: 13239424.26

Personnel
Logged By - Stacy Metz
Driller - Ray Bashaw and Patrick Hogan

Drilling Equipment: Geoprobe 6620D

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 2/24/11 00:00 ▽ Depth (ft bgs) 6.5
After Drilling: Date/Time 2/24/11 10:43 ▼ Depth (ft bgs) 6.62

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	45		2	**SILTY CLAY** mostly lean clay, some silt, slightly plastic, dark yellowish brown (10YR 4/6) with gray (10YR 5/1) mottling, no odor, dry to moist, very stiff to hard.	CL-ML			
			4	Same as above.				
2 GP	82.5		6	Change to very moist.				
				▼ **WELL GRADED SAND** mostly fine to coarse sand, few sub-rounded fine gravel, few silt, dark yellowish brown (10YR 3/6), no odor, saturated, medium dense to dense.	SW			
			8	Same as above.				
3 GP	100		10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature: Stacy Metz

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: John Bacon

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company		WELL ID:	**PRB-01**
PROJ. NO: 8070.16	DATE INSTALLED: 2/24/2011 INSTALLED BY: S. Metz		CHECKED BY: J. Bacon

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
784.50	0.0	GROUND SURFACE
784.06	0.5	TOP OF CASING
	1.3	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
5.50		RISER PIPE LENGTH
	1.3	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	4.0	BENTONITE SEAL
778.56	6.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		SCREEN LENGTH
773.56	11.0	BOTTOM OF SCREEN
	11.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
772.56	12.0	HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8 IN. FROM 0 TO 11 FT.
3 IN. FROM 11 TO 12 FT.

SURF. CASING DIAMETER: 8 IN. FROM 0 TO 1 FT.
IN. FROM TO FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.1 HOURS

WATER REMOVED: 12 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Slightly Turbid

COLOR AFTER: Light Brown

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.70	T/PVC	2/24/2011	10:43
DTB AFTER DEVELOPING:	10.70	T/PVC	2/24/2011	10:50
SWE BEFORE DEVELOPING:	6.62	T/PVC	2/24/2011	10:43
SWE AFTER DEVELOPING:	6.61	T/PVC	2/24/2011	10:50
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

RMT

WELL NO. PRB-02

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/24/11	2/24/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push/HSA	784.5	784.07	12.0	3

Boring Location: In ROW E of Maumee, ~680 ft S of Mohawk
N: 180967.48 E: 13239419.13

Personnel
Logged By - Stacy Metz
Driller - Ray Bashaw and Patrick Hogan

Drilling Equipment: Geoprobe 6620D

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 2/24/11 00:00 ▽ Depth (ft bgs) 6.5
After Drilling: Date/Time 2/24/11 11:11 ▼ Depth (ft bgs) 6.55

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	35		2	**SILTY CLAY** mostly lean clay, some silt, slightly plastic, gray (10YR 5/1) with dark yellowish brown (10YR 4/6) mottling, no odor, moist, very stiff to hard.	CL-ML			
2 GP	70		4	Same as above.				
			6	**POORLY GRADED SAND** mostly fine sand, few clay, dark yellowish brown (10YR 4/4), no odor, saturated, medium dense.	SP			
				CLAYEY GRAVEL WITH SAND mostly fine to coarse sub-rounded gravel, some clay, little fine to coarse sand, slightly plastic, dark yellowish brown (10YR 3/6), no odor, saturated, dense.	GC			
3 GP	80		8	**WELL GRADED SAND** mostly fine to coarse sand, few sub-rounded gravel, few silt, dark yellowish brown (10YR 3/6), no odor, saturated, medium dense to dense.	SW			
			10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature:

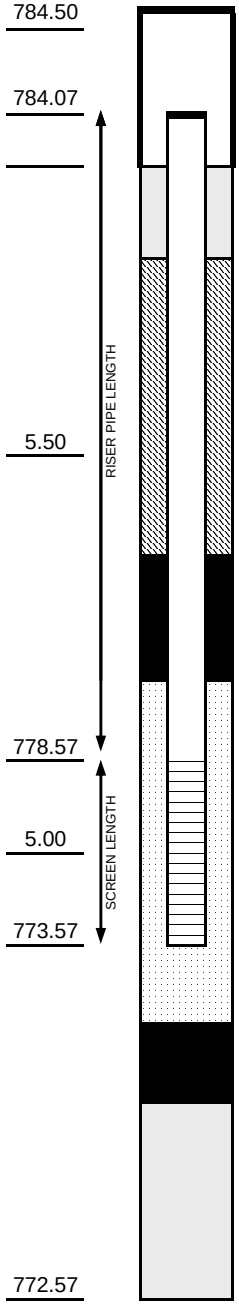
Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: John Bacon

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company		WELL ID:	**PRB-02**
PROJ. NO: 8070.16	DATE INSTALLED: 2/24/2011 INSTALLED BY: S. Metz		CHECKED BY: J. Bacon

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
784.50	0.0	GROUND SURFACE
784.07	0.5	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
5.50		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	2.5	BENTONITE SEAL
778.57	6.0	TOP OF SCREEN
5.00		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
773.57	11.0	BOTTOM OF SCREEN
	11.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
772.57	12.0	HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 1-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	3	IN. FROM	0	TO	12	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	8	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.9 HOURS

WATER REMOVED: 3 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.80	T/PVC	2/24/2011	11:11
DTB AFTER DEVELOPING:	10.90	T/PVC	2/24/2011	12:04
SWE BEFORE DEVELOPING:	6.55	T/PVC	2/24/2011	11:11
SWE AFTER DEVELOPING:	6.59	T/PVC	2/24/2011	12:04
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-03s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/2/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	784.5	784.16	12.0	3

Boring Location: In right-of-way, 30 feet south of PRB Section 1. N: 180566.77 E: 13239375.67	Personnel: Logged By - Jamie Hoffman; Driller - Ray Bashaw	Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:	Water Level Observations: While Drilling: Date/Time 8/2/11 00:00 ▽ Depth (ft bgs) 7.0; After Drilling: Date/Time 8/5/11 14:17 ▼ Depth (ft bgs) 5.51
Tecumseh	Lenawee	MI	

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 HA	100		2	**SANDY CLAY** mostly clay, some medium to coarse sand, trace fine to medium gravel, medium plasticity, very dark grayish brown (10YR 3/2), moist, medium stiff to stiff.	CL			
			4					
			6	**LEAN CLAY** mostly clay, some silt, trace fine sand, high plasticity, very dark grayish brown (10YR 3/2), moist to saturated, very stiff. **Interbedded with POORLY GRADED SAND WITH GRAVEL** mostly coarse sand, some fine to medium gravel, few medium to fine sand, very dark grayish brown (10YR 3/2), moist to saturated, very loose.	CL SP CL SP CL			
2 GP	80		8	**POORLY GRADED SAND WITH GRAVEL** mostly coarse sand, some fine to medium gravel, few medium to fine sand, very dark brown (10YR 2/2), saturated, loose.	SP			
3 GP	80		10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

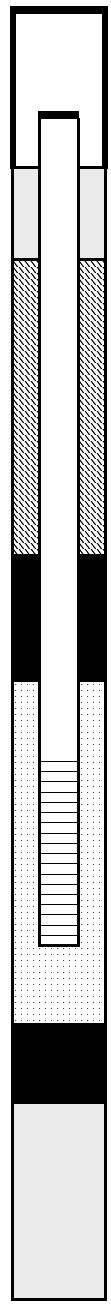
Signature: Jamie Hoffman	Firm: TRC Environmental Corp. 1540 Eisenhower Place Ann Arbor, MI	(734) 971-7080 Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-03s**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
784.50	0.0 GROUND SURFACE
784.16	0.3 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
6.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
778.16	6.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: WASHED SAND & NATURAL COLLAPSE
773.16	11.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
773.16	12.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 6.5 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.65	T/PVC	8/3/2011	8:35
DTB AFTER DEVELOPING:	10.65	T/PVC	8/5/2011	14:17
SWE BEFORE DEVELOPING:	5.44	T/PVC	8/3/2011	8:35
SWE AFTER DEVELOPING:	5.51	T/PVC	8/5/2011	14:17
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-04s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/2/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	785.4	784.70	12.0	3

Boring Location: In right-of-way, 170 feet north of PRB-03s, 40 feet east of PRB-06s.
N: 180739.64 E: 13239366.88

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/2/11 00:00 ▽ Depth (ft bgs) 7.0
After Drilling: Date/Time 8/5/11 14:35 ▼ Depth (ft bgs) 5.97

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, trace fine to medium gravel, nonplastic, very dark grayish brown (10YR 3/2), moist, medium stiff to stiff.	CL			
			4	**LEAN CLAY** mostly clay, some silt, trace fine sand, high plasticity, very dark grayish brown (10YR 3/2), dry, very stiff.	CL			
				SILTY SAND mostly fine to medium sand, some silt, few coarse sand, brown (10YR 5/3), moist, loose.	SM			
2 GP	50		6	**LEAN CLAY** mostly clay, some silt, trace fine sand, high plasticity, very dark grayish brown (10YR 3/2), moist, very stiff.	CL			
				▽ **SILTY SAND** mostly fine to medium sand, some silt, few coarse sand, brown (10YR 5/3), moist, loose.	SM			
			8	**POORLY GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine to medium gravel, few silt, few coarse gravel, few cobbles, dark brown (10YR 3/3), saturated, very loose.	SP			Heaving sands prevented sample collection below 8 feet.
			10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-04s**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
785.40	0.0 GROUND SURFACE
784.70	0.7 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
6.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
778.70	6.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: WASHED SAND & NATURAL COLLAPSE
773.70	11.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
773.70	12.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 10 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.64	T/PVC	8/3/2011	8:47
DTB AFTER DEVELOPING:	10.59	T/PVC	8/5/2011	14:35
SWE BEFORE DEVELOPING:	6.01	T/PVC	8/3/2011	8:47
SWE AFTER DEVELOPING:	5.97	T/PVC	8/5/2011	14:35
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-04d

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products PRB Monitoring Well Network	8/2/11	8/2/11	186299

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	785.4	784.70	30.0	3

Boring Location: In right-of-way, 170 feet north of PRB-03s, 40 feet east of PRB-06s.
N: 180738.67 E: 13239366.83

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/2/11 00:00 ▽ Depth (ft bgs) 7.0
After Drilling: Date/Time 8/5/11 14:30 ▼ Depth (ft bgs) 6.11

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, trace fine to medium gravel, nonplastic, very dark grayish brown (10YR 3/2), moist, medium stiff to stiff.	CL			
			4	**LEAN CLAY** mostly clay, some silt, trace fine sand, high plasticity, very dark grayish brown (10YR 3/2), dry, very stiff.	CL			
				SILTY SAND mostly fine to medium sand, some silt, few coarse sand, brown (10YR 5/3), moist, loose.	SM			
2 GP	50		6 ▼	**LEAN CLAY** mostly clay, some silt, trace fine sand, high plasticity, very dark grayish brown (10YR 3/2), moist, very stiff.	CL			
			▽	**SILTY SAND** mostly fine to medium sand, some silt, few coarse sand, brown (10YR 5/3), moist, loose.	SM			
			8	**POORLY GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine to medium gravel, few silt, few coarse gravel, few cobbles, dark brown (10YR 3/3), saturated, very loose.	SP			Heaving sands prevented sample collection below 8 feet.
			10					
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-04d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			14					
			16					
			18					
			20					
			22					
			24					
			26					
			28					

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

WELL NO. PRB-04d

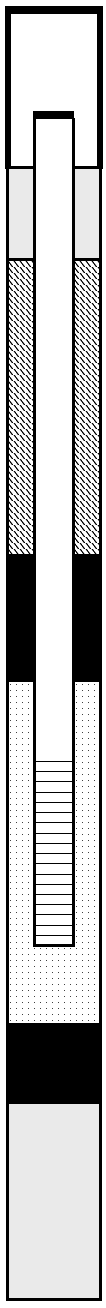
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			30	End of boring at 30.0 feet below ground surface.				
			32					
			34					
			36					
			38					
			40					
			42					
			44					

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-04d**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
785.40	0.0 GROUND SURFACE
784.70	0.7 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
25.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	21.0 BENTONITE SEAL
759.70	25.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: NATURAL COLLAPSE
754.70	30.0 BOTTOM OF SCREEN
	30.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
754.70	30.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 30 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 14 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	29.55	T/PVC	8/3/2011	8:46
DTB AFTER DEVELOPING:	29.89	T/PVC	8/5/2011	14:30
SWE BEFORE DEVELOPING:	6.04	T/PVC	8/3/2011	8:46
SWE AFTER DEVELOPING:	6.11	T/PVC	8/5/2011	14:30
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-05s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/1/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	785.1	784.66	12.0	3

Boring Location: 30 feet west of in-barrier well PRB-06s, 150 feet north of southern fence.
N: 180734.84 E: 13239295.51

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 7.0
After Drilling: Date/Time 8/5/11 12:41 ▼ Depth (ft bgs) 5.93

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, trace fine to medium gravel, medium plasticity, very dark grayish brown (10YR 3/2), moist, medium stiff to stiff.	CL			
			4	Same as above.				
2 GP	50		6	**POORLY GRADED SAND WITH GRAVEL** mostly coarse sand, some fine to medium gravel, few medium to fine sand, very dark grayish brown (10YR 3/2), moist, loose.	SP			
				SANDY LEAN CLAY mostly clay, some medium to coarse sand, trace fine to medium gravel, medium plasticity, very dark grayish brown (10YR 3/2), moist, stiff.	CL			
			8	**POORLY GRADED SAND WITH GRAVEL** mostly coarse sand, some fine to medium gravel, few medium to fine sand, trace cobbles, very dark grayish brown (10YR 3/2), saturated, very loose.	SP			
3 GP	70		10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

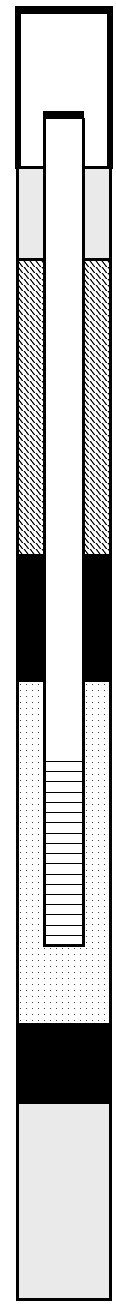
Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI

(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-05s**
PROJ. NO: 186299	DATE INSTALLED: 8/1/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
785.10	0.0 GROUND SURFACE
784.66	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
6.00	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
778.66	6.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WASHED SAND & NATURAL COLLAPSE
5.00	
773.66	11.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
773.66	12.0 HOLE BOTTOM



NOTES:

Natural collapse to 7 feet below ground surface.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 12 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.84	T/PVC	8/3/2011	10:43
DTB AFTER DEVELOPING:	10.75	T/PVC	8/5/2011	12:41
SWE BEFORE DEVELOPING:	5.87	T/PVC	8/3/2011	10:43
SWE AFTER DEVELOPING:	5.93	T/PVC	8/5/2011	12:41
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-06s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/1/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	784.9	784.52	12.0	3

Boring Location: 14 feet west of eastern fence, 150 feet north of southern fence within PRB Section 1.
N: 180737.19 E: 13239325.71

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 7.0
After Drilling: Date/Time 8/5/11 13:15 ▼ Depth (ft bgs) 5.85

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, few fine gravel, medium plasticity, dark grayish brown (10YR 4/2), moist, soft.	CL			
			4	**WELL GRADED SAND** mostly medium to coarse sand, some fine sand, few clay, trace fine gravel, dark grayish brown (10YR 4/2), moist, dense.	SW			
				SANDY LEAN CLAY mostly clay, some medium to coarse sand, few fine gravel, medium plasticity, dark grayish brown (10YR 4/2), moist, soft.	CL			
2 GP	30		6	**WELL GRADED SAND** mostly medium to coarse sand, some fine sand, few clay, trace fine gravel, dark grayish brown (10YR 4/2), decomposition odor, moist, loose. ▼ ▽ Change to trace coarse gravel, saturated at 7.0 feet.				
3 GP	30		8	Same as above.	SW			
			10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

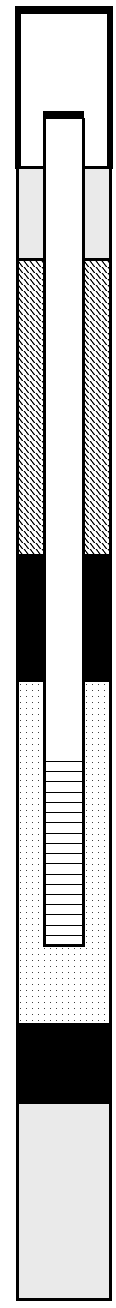
Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-06s**
PROJ. NO: 186299	DATE INSTALLED: 8/1/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
784.90	0.0 GROUND SURFACE
784.52	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
6.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
778.52	6.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: WASHED SAND & NATURAL COLLAPSE
773.52	11.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
773.52	12.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 0.5 (Dry) GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Milky Brown

CLARITY AFTER: Turbid

COLOR AFTER: White

ODOR (IF PRESENT): Decomposition

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.84	T/PVC	8/3/2011	10:45
DTB AFTER DEVELOPING:	10.74	T/PVC	8/5/2011	13:15
SWE BEFORE DEVELOPING:	5.81	T/PVC	8/3/2011	10:45
SWE AFTER DEVELOPING:	5.85	T/PVC	8/5/2011	13:15
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-07s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/2/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	784.5	784.08	12.0	3

Boring Location: In right-of-way, 170 feet north of PRB-04s/d, 30 feet east of eastern fence.
N: 180895.66 E: 13239362.82

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/2/11 00:00 ▽ Depth (ft bgs) 8.0
After Drilling: Date/Time 8/8/11 13:26 ▼ Depth (ft bgs) 5.59

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	60		2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, trace fine to medium gravel, medium plasticity, very dark grayish brown (10YR 3/2), moist, medium stiff to stiff.	CL			
			4	**SANDY LEAN CLAY WITH GRAVEL** mostly clay, some medium to coarse sand, little fine to coarse gravel, trace cobbles, medium plasticity, very dark grayish brown (10YR 3/2), moist, medium stiff to stiff.	CL			
2 GP	60		6	**SILTY SAND** mostly fine to medium sand, some silt, few coarse sand, brown (10YR 5/3), moist, loose.	SM			
				SANDY LEAN CLAY mostly clay, some medium to coarse sand, trace fine to medium gravel, medium plasticity, very dark grayish brown (10YR 3/2), moist, medium stiff to stiff.	CL			
3 GP	80		8	**POORLY GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine to medium gravel, few silt, few coarse gravel, few cobbles, dark brown (10YR 3/3), moist, very loose. ▽ Change to saturated at 8 feet.	SP			
			10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

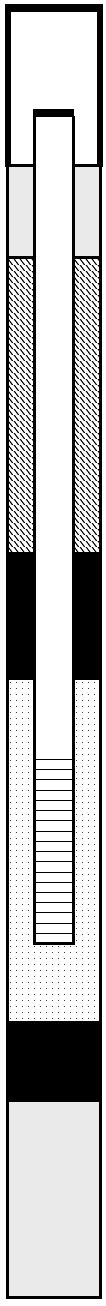
Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation			WELL ID: **PRB-07s**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011	INSTALLED BY: J. Hoffman	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
784.50	0.0 GROUND SURFACE
784.08	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
7.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	5.0 BENTONITE SEAL
777.08	7.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: WASHED SAND & NATURAL COLLAPSE
772.08	12.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
772.08	12.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 13 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	11.85	T/PVC	8/3/2011	9:05
DTB AFTER DEVELOPING:	11.85	T/PVC	8/8/2011	13:26
SWE BEFORE DEVELOPING:	5.46	T/PVC	8/3/2011	9:05
SWE AFTER DEVELOPING:	5.59	T/PVC	8/8/2011	13:26
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-08s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/2/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	785.2	784.69	12.0	3

Boring Location: In right-of-way, 290 feet north of PRB-07s, 30 feet east of eastern fence.
N: 181186.61 E: 13239356.36

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/2/11 00:00 ▽ Depth (ft bgs) 7.0
After Drilling: Date/Time 8/8/11 12:48 ▼ Depth (ft bgs) 6.18

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	60		2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, trace fine to medium gravel, medium plasticity, very dark grayish brown (10YR 3/2) with gray (10YR 5/1) mottling, moist, medium stiff to stiff.	CL			
			4					
				SILTY SAND mostly fine to medium sand, some silt, few coarse sand, brown (10YR 5/3), moist, loose.	SM			
2 GP	70		6	▼ **POORLY GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine to medium gravel, few silt, trace coarse gravel, dark brown (10YR 3/3), moist, very loose.				
				▽ Change to saturated at 7.0 feet.				
			8	Same as above.	SP			
3 GP	90		10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-08s**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
785.20	0.0 GROUND SURFACE
784.69	0.5 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
6.00	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
778.69	6.0 TOP OF SCREEN
5.00	FILTER PACK MATERIAL: NATURAL COLLAPSE
773.69	11.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
773.69	12.0 HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 10 (Dry) GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Slightly Turbid

COLOR AFTER: Light Brown

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.78	T/PVC	8/3/2011	9:32
DTB AFTER DEVELOPING:	10.76	T/PVC	8/8/2011	12:48
SWE BEFORE DEVELOPING:	6.08	T/PVC	8/3/2011	9:32
SWE AFTER DEVELOPING:	6.18	T/PVC	8/8/2011	12:48
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-08d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/2/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	785.2	784.69	24.0	3

Boring Location: In right-of-way, 290 feet north of PRB-07s, 30 feet east of eastern fence.
N: 181187.49 E: 13239355.92

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/2/11 00:00 ▽ Depth (ft bgs) 7.0
After Drilling: Date/Time 8/8/11 12:38 ▼ Depth (ft bgs) 6.18

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	60		2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, trace fine to medium gravel, medium plasticity, very dark grayish brown (10YR 3/2) with gray (10YR 5/1) mottling, moist, medium stiff to stiff.	CL			
			4					
				SILTY SAND mostly fine to medium sand, some silt, few coarse sand, brown (10YR 5/3), moist, loose.	SM			
2 GP	70		6	▼ **POORLY GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine to medium gravel, few silt, trace coarse gravel, dark brown (10YR 3/3), moist, very loose. ▽ Change to saturated at 7.0 feet.				
			8	Same as above	SP			
3 GP	90		10					
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
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Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-08d

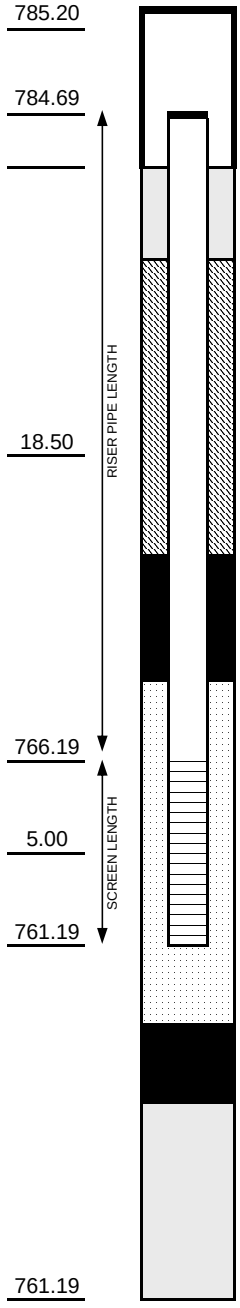
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			14					
			16					
			18					
			20					
			22					
			24	End of boring at 24.0 feet below ground surface.				
			26					
			28					

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 8070.20 12/19/11

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-08d**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
785.20	0.0 GROUND SURFACE
784.69	0.5 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
18.50	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
766.19	18.5 TOP OF SCREEN
	FILTER PACK MATERIAL: NATURAL COLLAPSE
5.00	
761.19	23.5 BOTTOM OF SCREEN
	24.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
761.19	24.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 24 FT.
____ IN. FROM ____ TO ____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 20 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Slightly Turbid

COLOR AFTER: Light Brown

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	22.25	T/PVC	8/3/2011	9:34
DTB AFTER DEVELOPING:	22.85	T/PVC	8/8/2011	12:38
SWE BEFORE DEVELOPING:	6.29	T/PVC	8/3/2011	9:34
SWE AFTER DEVELOPING:	6.18	T/PVC	8/8/2011	12:38
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

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US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-09s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/1/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	785.6	785.08	12.0	3

Boring Location: 19 feet west of eastern fence, 450 feet north of PRB-06s in PRB.
N: 181186.49 E: 13239307.57

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 6.0
After Drilling: Date/Time 8/5/11 10:40 ▼ Depth (ft bgs) 5.32

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 GP	50		0–2	**SANDY LEAN CLAY** mostly clay, some medium to coarse sand, low plasticity, yellowish brown (10YR 5/4), decomposition odor, dry, medium stiff.	CL			
			2–4	**LEAN CLAY WITH SAND** mostly clay, little medium to coarse sand, high plasticity, dark grayish brown (10YR 5/2), decomposition odor, dry, medium stiff.	CL			
2 GP	50		4–6	**WELL GRADED SAND WITH CLAY** mostly medium to coarse sand, some fine sand, few to little clay, trace fine gravel, dark grayish brown (10YR 4/2), moist, dense. ▼ ▽ Change to saturated, very loose at 6.0 feet.	SW-SC			
3 GP	50		6–8	Same as above.	SW-SC			
			8–10					
			10–12					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
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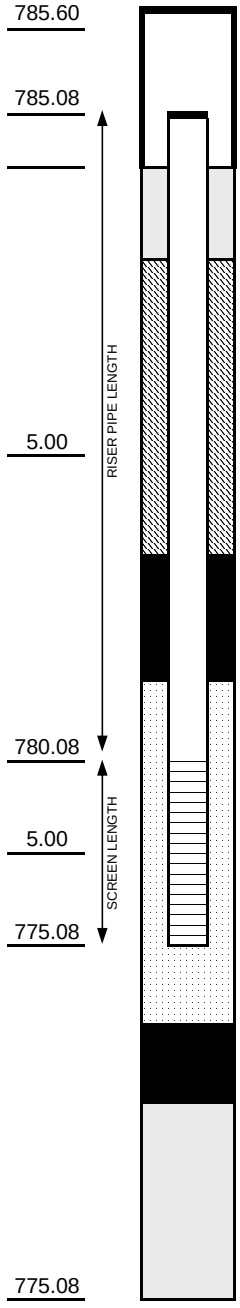
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-09s**
PROJ. NO: 186299	DATE INSTALLED: 8/1/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
785.60	0.0 GROUND SURFACE
785.08	0.5 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
5.00 RISER PIPE LENGTH	
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
780.08	5.0 TOP OF SCREEN
5.00 SCREEN LENGTH	FILTER PACK MATERIAL: NATURAL COLLAPSE
775.08	10.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
775.08	12.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 2.5 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Turbid

COLOR AFTER: Light Brown

ODOR (IF PRESENT): Decomposition

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.18	T/PVC	8/3/2011	11:06
DTB AFTER DEVELOPING:	10.12	T/PVC	8/5/2011	10:40
SWE BEFORE DEVELOPING:	5.35	T/PVC	8/3/2011	11:06
SWE AFTER DEVELOPING:	5.32	T/PVC	8/5/2011	10:40
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

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US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-10s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/3/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	786.0	785.22	12.0	3

Boring Location: 30 feet north of the north end of PRB Section 1.

N: 181352.40 E: 13239306.06

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 7.0
After Drilling: Date/Time 8/5/11 08:19 ▼ Depth (ft bgs) 6.60

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	60		2	**SANDY LEAN CLAY** mostly clay, some fine to medium sand, little silt, nonplastic, brown (10YR 4/3), dry, stiff.	CL			
			4	**LEAN CLAY WITH SAND** mostly clay, little fine to medium sand, little silt, high plasticity, brown (10YR 4/4), decomposition odor, moist, medium stiff.	CL			
2 GP	50		6	**CLAYEY SAND WITH GRAVEL** mostly medium to coarse sand, some clay, little fine gravel, dark brown (10YR 3/3), moist, loose.	SC			
				LEAN CLAY WITH SAND mostly clay, little fine to medium sand, little silt, high plasticity, brown (10YR 4/4), decomposition odor, moist, medium stiff.	CL			
				▽ **POORLY GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine to medium gravel, few silt, trace coarse gravel, dark brown (10YR 3/3), dry, very loose. Change to saturated at 7.0 feet below ground surface.	SP			
3 GP	60		8					
			10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
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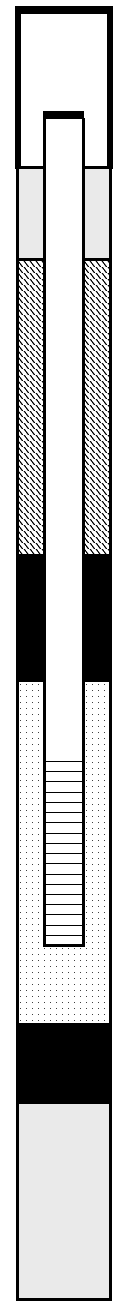
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-10s**
PROJ. NO: 186299	DATE INSTALLED: 8/3/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
786.00	0.0 GROUND SURFACE
785.22	0.7 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
6.00	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	4.0 BENTONITE SEAL
779.22	6.0 TOP OF SCREEN
	FILTER PACK MATERIAL: NATURAL COLLAPSE
5.00	
774.22	11.0 BOTTOM OF SCREEN
	12.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
774.22	12.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 12 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 7 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	10.66	T/PVC	8/3/2011	15:03
DTB AFTER DEVELOPING:	10.59	T/PVC	8/5/2011	8:19
SWE BEFORE DEVELOPING:	6.71	T/PVC	8/3/2011	15:03
SWE AFTER DEVELOPING:	6.60	T/PVC	8/5/2011	8:19
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-11s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/1/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	795.5	795.12	20.0	3

Boring Location: 30 feet south of the south end of PRB Section 2.
N: 180259.31 E: 13238765.60

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 16.0
After Drilling: Date/Time 8/8/11 11:41 ▼ Depth (ft bgs) 15.69

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	60		2	**GRAVELLY LEAN CLAY WITH SAND** mostly clay, some fine to coarse gravel, little fine to medium sand, nonplastic, strong brown (7.5YR 4/6), dry, stiff.	CL			
				WELL GRADED SAND WITH GRAVEL mostly medium to coarse sand, some fine sand, little fine to coarse gravel, brown (10YR 4/3), dry, loose.				
2 GP	70		4	Same as above.	SW			
			6					
				SANDY LEAN CLAY mostly clay, some medium to coarse sand, nonplastic, strong brown (7.5YR 4/6), dry, stiff.	CL			
				WELL GRADED SAND WITH GRAVEL mostly medium to coarse sand, some fine sand, little fine to coarse gravel, few cobbles, brown (10YR 4/3), dry, loose.				
3 GP	70		8					
			10	Change to brown (7.5YR 4/4), moist at 10.0 feet.	SW			
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
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(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

WELL NO. PRB-11s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
4 GP	70		14	Same as above.				
			16	Change to saturated at 16.0 feet.	SW			
5 GP	60		18					
			20	End of boring at 20.0 feet below ground surface.				
			22					
			24					
			26					
			28					

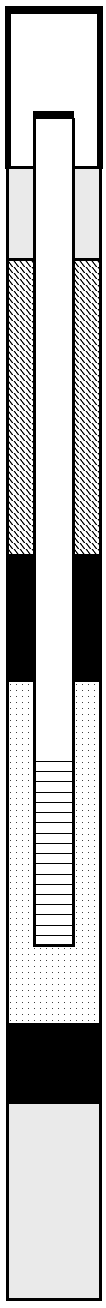
SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 8070.20 12/19/11

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-11s**
PROJ. NO: 186299	DATE INSTALLED: 8/1/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
795.50	0.0 GROUND SURFACE
795.12	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
15.00 RISER PIPE LENGTH	
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	12.0 BENTONITE SEAL
780.12	15.0 TOP OF SCREEN
5.00 SCREEN LENGTH	FILTER PACK MATERIAL: NATURAL COLLAPSE
775.12	20.0 BOTTOM OF SCREEN
	20.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
775.12	20.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 20 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 14 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	19.96	T/PVC	8/3/2011	10:10
DTB AFTER DEVELOPING:	19.84	T/PVC	8/8/2011	11:41
SWE BEFORE DEVELOPING:	15.62	T/PVC	8/3/2011	10:10
SWE AFTER DEVELOPING:	15.69	T/PVC	8/8/2011	11:41
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-12s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/1/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	795.7	795.46	20.0	3

Boring Location: On fenceline, 20 feet north of southern fence along PRB Section 2.
N: 180412.20 E: 13238770.21

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 16.0
After Drilling: Date/Time 8/8/11 08:17 ▼ Depth (ft bgs) 16.05

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SANDY LEAN CLAY** mostly clay, some fine to medium sand, few silt, high plasticity, dark brown (10YR 3/3), decomposition odor, dry, medium stiff.	CL			
2 GP	60		4	**WELL GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine sand, little fine to coarse gravel, brown (10YR 4/3), dry, loose. Change to some fine to medium gravel at 4.0 feet.	SW			
3 GP	60		8	Same as above.				
			10					
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

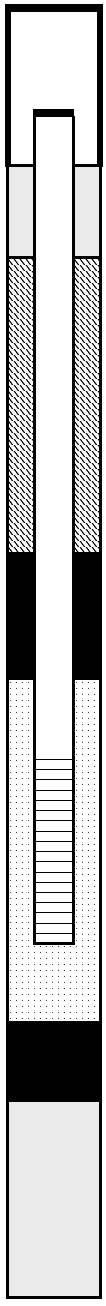
WELL NO. PRB-12s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
4 GP	60		14	Same as above.	SW			
				WELL GRADED SAND mostly fine to coarse sand, trace fine to coarse gravel, brown (10YR 4/3), dry, loose.	SW			
			16 ▼	**POORLY GRADED SAND** mostly medium to coarse sand, some fine gravel, brown (10YR 4/3), saturated, loose.				
5 GP	50		18		SP			
			20	End of boring at 20.0 feet below ground surface.				
			22					
			24					
			26					
			28					

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-12s**
PROJ. NO: 186299	DATE INSTALLED: 8/1/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
795.70	0.0 GROUND SURFACE
795.46	0.3 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
15.00 RISER PIPE LENGTH	
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	13.0 BENTONITE SEAL
780.46	15.0 TOP OF SCREEN
5.00 SCREEN LENGTH	
	FILTER PACK MATERIAL: NATURAL COLLAPSE
775.46	20.0 BOTTOM OF SCREEN
	20.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
775.46	20.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 20 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 4 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): Decomposition

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	19.98	T/PVC	8/3/2011	12:40
DTB AFTER DEVELOPING:	19.91	T/PVC	8/8/2011	8:17
SWE BEFORE DEVELOPING:	15.96	T/PVC	8/3/2011	12:40
SWE AFTER DEVELOPING:	16.05	T/PVC	8/8/2011	8:17
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

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US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-13s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	797.9	797.20	24.0	3

Boring Location: Upgradient well, 200 feet north and 30 feet west of PRB-12s.

N: 180620.75 E: 13238706.31

Personnel
Logged By - Jamie Hoftman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 20.0
After Drilling: Date/Time 8/8/11 08:40 ▼ Depth (ft bgs) 17.68

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**GRAVEL ROAD BASE**				
1 GP	30		2	**SANDY LEAN CLAY** mostly clay, some fine to medium sand, nonplastic, very dark grayish brown (10YR 3/2), dry, medium stiff.	CL			
2 GP	60		4	**WELL GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine sand, little fine to coarse gravel, brown (10YR 4/3), dry, loose.	SW			
3 GP	70		8	Same as above.				
			10	**WELL GRADED SAND** mostly medium to coarse sand, some fine sand, trace fine gravel, brown (10YR 4/3), dry, loose.	SW			
			12	Change to very loose at 12.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.20 2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoftman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

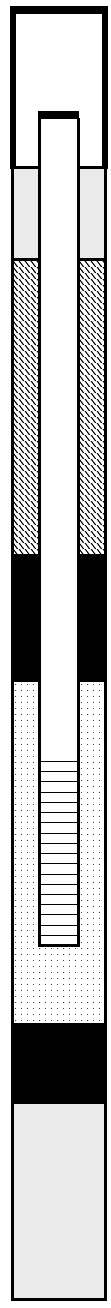
WELL NO. PRB-13s

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
4 GP	70		14					
			16					
5 GP	50		18	▼ Change to moist at 17.5 feet.	SW			
			20	▽ Change to saturated at 20.0 feet.				
6 GP	70		22					
			24	End of boring at 24.0 feet below ground surface.				
			26					
			28					

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-13s**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
797.90	0.0 GROUND SURFACE
797.20	0.7 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
19.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	13.0 BENTONITE SEAL
778.20	19.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: NATURAL COLLAPSE
773.20	24.0 BOTTOM OF SCREEN
	24.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
773.20	24.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 24 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 12 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	23.32	T/PVC	8/3/2011	12:50
DTB AFTER DEVELOPING:	24.21	T/PVC	8/8/2011	8:40
SWE BEFORE DEVELOPING:	17.63	T/PVC	8/3/2011	12:50
SWE AFTER DEVELOPING:	17.68	T/PVC	8/8/2011	8:40
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

WELL NO. PRB-14s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	797.1	796.70	24.0	3

Boring Location:	Personnel	Drilling Equipment:
In-barrier well 30 feet east of PRB-13s. N: 180620.32 E: 13238753.95	Logged By - Jamie Hoffman Driller - Ray Bashaw	Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:			
Tecumseh	Lenawee	MI	While Drilling: Date/Time 8/1/11 00:00	▽	Depth (ft bgs)	20.5
			After Drilling: Date/Time 8/8/11 09:07	▼	Depth (ft bgs)	17.26

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**GRAVEL ROAD BASE**				
1 GP	25		2	**SANDY LEAN CLAY** mostly clay, some fine to medium sand, nonplastic, very dark grayish brown (10YR 3/2), dry, medium stiff.	CL			
2 GP	50		6	**WELL GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine sand, little fine to coarse gravel, brown (10YR 4/3), dry, loose.	SW			
3 GP	80		8	Same as above.				
			10	Change to moist at 10.0 feet.				
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature:	Firm: TRC Environmental Corp. 1540 Eisenhower Place Ann Arbor, MI	(734) 971-7080 Fax (734) 971-9022
Jamie Hoffman		

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-14s

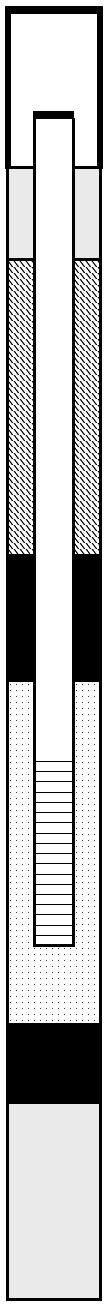
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
4 GP	60		14					
			16					
5 GP	60		18		SW			
			20	6-inch seam of black (10YR 2/1) staining, slight metallic odor at 19.5 feet. ▽ Change to saturated at 20.5 feet.				
6 GP	50		22					
			24	End of boring at 24.0 feet below ground surface.				
			26					
			28					

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-14s**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
797.10	0.0 GROUND SURFACE
796.70	0.4 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
19.50	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	14.0 BENTONITE SEAL
777.20	19.5 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: NATURAL COLLAPSE
772.20	24.5 BOTTOM OF SCREEN
	24.5 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
772.20	24.5 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 24.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 13 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	24.90	T/PVC	8/3/2011	13:30
DTB AFTER DEVELOPING:	24.44	T/PVC	8/8/2011	9:07
SWE BEFORE DEVELOPING:	17.21	T/PVC	8/3/2011	13:30
SWE AFTER DEVELOPING:	17.26	T/PVC	8/8/2011	9:07
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-15s

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	796.0	795.35	20.0	3

Boring Location: Downgradient well, 30 feet east of PRB-14s.

N: 180620.52 E: 13238805.64

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 16.0
After Drilling: Date/Time 8/8/11 09:28 ▼ Depth (ft bgs) 15.9

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL/GRAVEL ROAD BASE**				
1 GP	40		2	**SANDY LEAN CLAY** mostly clay, some fine to medium sand, nonplastic, very dark grayish brown (10YR 3/2), dry, medium stiff.	CL			
2 GP	50		4	**WELL GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine sand, little fine to coarse gravel, brown (10YR 4/3), dry, loose.	SW			
3 GP	50		8	Same as above.				
			10					
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070 20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

WELL NO. PRB-15s

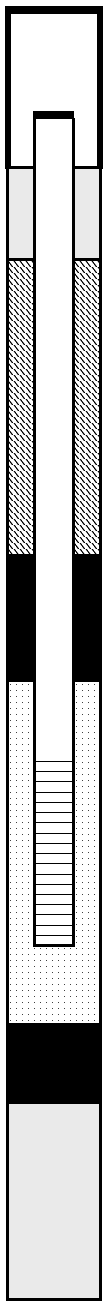
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
4 GP	50		14					
			16	Change to saturated at 16.0 feet.				
5 GP	60		18		SW			
			20	6-inch seam of black (10YR 2/1) staining, slight metallic odor at 19.5 feet.				
6 GP	80		22					
			24	End of boring at 24.0 feet below ground surface.				
			26					
			28					

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-15s**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
796.00	0.0 GROUND SURFACE
795.35	0.6 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
15.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	11.0 BENTONITE SEAL
780.35	15.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: NATURAL COLLAPSE
775.35	20.0 BOTTOM OF SCREEN
	20.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
775.35	20.0 HOLE BOTTOM



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 20 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 13 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	20.09	T/PVC	8/3/2011	13:45
DTB AFTER DEVELOPING:	20.04	T/PVC	8/8/2011	9:28
SWE BEFORE DEVELOPING:	15.89	T/PVC	8/3/2011	13:45
SWE AFTER DEVELOPING:	15.90	T/PVC	8/8/2011	9:28
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

WELL CONSTRUCTION LOG

TRC

WELL NO. PRB-15d

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products PRB Monitoring Well Network	8/1/11	8/2/11	186299

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	796.0	795.43	34.0	3

Boring Location: Downgradient well, 30 feet east of PRB-14s.

N: 180620.35 E: 13238806.80

Personnel
Logged By - Jamie Hoffman
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 8/1/11 00:00 ▽ Depth (ft bgs) 16.0
After Drilling: Date/Time 8/8/11 10:02 ▼ Depth (ft bgs) 16.03

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL/GRAVEL ROAD BASE**				
1 GP	40		2	**SANDY LEAN CLAY** mostly clay, some fine to medium sand, nonplastic, very dark grayish brown (10YR 3/2), dry, medium stiff.	CL			
2 GP	50		4	**WELL GRADED SAND WITH GRAVEL** mostly medium to coarse sand, some fine sand, little fine to coarse gravel, brown (10YR 4/3), dry, loose.	SW			
			6					
			8	Same as above.				
3 GP	50		10					
			12					

SOIL BORING WELL CONSTRUCTION LOG 8070.20_2011.GPJ TRC_CORP.GDT 186299 11/16/11

Signature: Jamie Hoffman

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

WELL NO. PRB-15d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
4 GP	50		14					
			16	Change to saturated at 16.0 feet.				
5 GP	60		18		SW			
			20	6-inch seam of black (10YR 2/1) staining, slight metallic odor at 19.5 feet.				
6 GP	80		22					
			24	**NO RECOVERY**				
			26					
			28					

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

WELL NO. PRB-15d

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			30					
			32					
			34	End of boring at 34.0 feet below ground surface.				
			36					
			38					
			40					
			42					
			44					

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - PRB Well Installation		WELL ID:	**PRB-15d**
PROJ. NO: 186299	DATE INSTALLED: 8/2/2011 INSTALLED BY: J. Hoffman	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
796.00	0.0 GROUND SURFACE
795.43	0.6 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
29.00	RISER PIPE LENGTH
	1.0 GROUT
	BENTONITE SEAL MATERIAL: GRANULAR
	20.0 BENTONITE SEAL
766.43	29.0 TOP OF SCREEN
5.00	SCREEN LENGTH
	FILTER PACK MATERIAL: NATURAL COLLAPSE
761.43	34.0 BOTTOM OF SCREEN
	34.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NA
761.43	34.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 3 IN. FROM 0 TO 34 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 10 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: Very Turbid

COLOR BEFORE: Brown

CLARITY AFTER: Clear

COLOR AFTER: None

ODOR (IF PRESENT): None

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	34.78	T/PVC	8/3/2011	13:50
DTB AFTER DEVELOPING:	34.49	T/PVC	8/8/2011	10:02
SWE BEFORE DEVELOPING:	15.91	T/PVC	8/3/2011	13:50
SWE AFTER DEVELOPING:	16.03	T/PVC	8/8/2011	10:02
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 06/2011

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Source Area Investigation Locations

Available soil boring logs for source area investigation locations conducted by both ATC and TRC between December 2008 and September 2010 are attached. During early investigation activities soil boring logs were not prepared for all sample locations. Soil boring information for those sample locations is provided in the table below:

Description of Samples Collected at Soil Boring Locations That Were Not Logged

Sample Location	Sample Date	Groundwater Sample Collection Depth (ft)	Soil Sample Collection Depth(s) (ft)
NS-05	4/20/2009	20-24’	12-14’
NS-06	4/20/2009	22-26’	2-3’ and 23-24’
NS-07	4/21/2009	20-24’	10-11’
NS-08	4/21/2009	20-24’	15-16’
NS-09	4/21/2009	20-24’	2-3’
SS-05	4/17/2009	22-26’	3-4’ and 12-13’
SS-06	4/17/2009	23-27’	5-7’
SS-07	4/20/2009	22-26’	21-22’
SS-08	4/21/2009	23-27’	19-20’

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Lot 14
Site Location: Various Parcels
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-1**
Start Date: 12/15/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.		LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"		Asphalt		
2	HA	0-2'	1	12"		SAND with some gravel, moist (fill material)	0.1	
4	HA	2-4'	2	24"		SAND with some gravel, rocks and dry brick	0.6	← Bentonite
6	GP	4-6'	3	24"				
8	GP	6-8'	4	24"				
10	GP	8-10'	5	24"		Coarse SAND with some gravel and rocks	0.4	
12	GP	10-12'	6	24"				
14	GP	12-14'	7	24"		Coarse SAND, dry and brown	0.5	
16	GP	14-16'	8	24"				
18	GP	16-18'	9	24"				
20	GP	18-20'	10	24"		Coarse SAND, moist	0.6	
22	GP	20-22'	11	24"				
24	GP	22-24'	12	24"	▼	Coarse SAND, saturated.	0.3	
26	GP	24-26'	13	24"				
28	GP	26-28'	14	24"				
30	GP	28-30'	15	24"				
						EOB		

(HA) = HAND AUGER
(AK) = AIR KNIFE
(SS) = SPLIT SPOON
(qP) = Penetrometer Unconfined Compressive Strength
(DS) = DISTURBED SAMPLE
(GP) = GeoProbe
bpf = blows per foot

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-2**
Start Date: 12/15/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, dark gray, with some clay and gravel (suspected fill)	1.5	
4	HA	2-4'	2	24"	CLAY, brown with some gravel and sand SAND with some gravel, brown	6.8	← Bentonite
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"			
10	GP	8-10'	5	24"	SAA	5.4	
12	GP	10-12'	6	24"			
14	GP	12-14'	7	24"			
16	GP	14-16'	8	24"		6.5	
18	GP	16-18'	9	24"			
20	GP	18-20'	10	24"	SAA	16.8	
22	GP	20-22'	11	24"			
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER
(AK) = AIR KNIFE
(SS) = SPLIT SPOON
(qP) = Penetrometer Unconfined Compressive Strength
(DS) = DISTURBED SAMPLE
(GP) = GeoProbe
bpf = blows per foot

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-3**
Start Date: 12/15/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, dark gray, with some clay and gravel (suspected fill)	2.1	
4	HA	2-4'	2	24"	SAND with some gravel, brown	10.2	← Bentonite
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"			
10	GP	8-10'	5	24"	SAA	9.1	
12	GP	10-12'	6	24"			
14	GP	12-14'	7	24"		8.2	
16	GP	14-16'	8	24"			
18	GP	16-18'	9	24"			
20	GP	18-20'	10	24"	SAA	9.8	
22	GP	20-22'	11	24"			
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER
(AK) = AIR KNIFE
(SS) = SPLIT SPOON
(qP) = Penetrometer Unconfined Compressive Strength
(DS) = DISTURBED SAMPLE
(GP) = GeoProbe
bpf = blows per foot

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE
(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

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Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-4**
Start Date: 12/15/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, dark gray, with some clay and gravel (suspected fill)	4.3	
4	HA	2-4'	2	24"	SAND with some gravel, brown	5.1	← Bentonite
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"			
10	GP	8-10'	5	24"			
12	GP						
14	GP				Direct push of Screen Point to collect water sample at 25-29'		
16	GP						
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-5**
Start Date: 12/15/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, dark gray, with some clay and gravel (suspected fill)	9.5	
4	HA	2-4'	2	24"	CLAY, brown with some gravel and sand SAND with some gravel, brown		← Bentonite
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"	CLAY with some sand, brown	1.9	
10	GP	8-10'	5	24"	Brown, fine and dry SAND		
12	GP	10-12'	6	24"	SAA	6.8	
14	GP	12-14'	7	24"			
16	GP						
18	GP				Direct push of Screen Point to collect water sample at 25-29'		
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-6**
Start Date: 12/15/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, dark gray, with some clay and gravel (suspected fill)	16.7	
4	HA	2-4'	2	24"	CLAY, brown with some gravel and sand SAND with some gravel, brown		
6	GP	4-6'	3	24"			← Bentonite
8	GP	6-8'	4	24"		19.9	
10	GP	8-10'	5	24"	SAA		
12	GP	10-12'	6	24"	Coarse, dry, brown SAND	26.1	
14	GP	12-14'	7	24"			
16	GP						
18	GP						
20	GP				Direct push of Screen Point to collect water sample at 25-29'		
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

EOB

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-7**
Start Date: 12/16/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	Dark brown, dry SAND with slag stone	16.2	
4	HA	2-4'	2	24"	dry sandy CLAY	10.8	
6	GP	4-6'	3	24"	Coarse, dry SAND with some gravel		← Bentonite
8	GP	6-8'	4	24"		10.2	
10	GP	8-10'	5	24"		22.3	
12	GP	10-12'	6	24"		21.2	
14	GP	12-14'	7	24"	SAA		
16	GP						
18	GP						
20	GP				Direct push of Screen Point to collect water sample at 25-29'		
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, MI
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-8**
Start Date: 12/16/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	Fine, brown SAND (suspected fill material)	2.8	
4	HA	2-4'	2	24"	concrete pieces and gravel to 1' SAND with a little clay	8.8	
6	GP	4-6'	3	24"		2.7	
8	GP	6-8'	4	24"			
10	GP	8-10'	5	24"	Coarse, brown, dry SAND	5.5	← Bentonite
12	GP	10-12'	6	24"			
14	GP	12-14'	7	24"		4.4	
16	GP	14-16'	8	24"			
18	GP	16-18'	9	24"	SAA	7.5	
20	GP	18-20'	10	24"			
22	GP	20-22'	11	24"		9.5	
24	GP	22-24'	12	24"			
26	GP	24-26'	13	24"			
28	GP	26-28'	14	24"	SAA	5.4	
30	GP	28-30'	15	24"			
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-9**
Start Date: 12/16/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	Brown SAND	2.2	
4	HA	2-4'	2	24"	Coarse SAND and gravel (suspected fill material)	2.4	
6	GP	4-6'	3	24"		5.3	
8	GP	6-8'	4	24"	Coarse SAND and gravel	5.1	
10	GP	8-10'	5	24"			← Bentonite
12	GP						
14	GP						
16	GP						
18	GP				Direct push of Screen Point to collect water sample at 25-29'		
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-10**
Start Date: 12/16/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Asphalt		
2	HA	0-2'	1	12"	CLAY with some brick fragments (fill material)	0.3	
4	HA	2-4'	2	24"	Coarse SAND and gravel Coarse, brown, dry SAND and gravel	0.2	
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"		1.2	← Bentonite
10	GP	8-10'	5	24"	SAA		
12	GP	10-12'	6	24"		1.0	
14	GP	12-14'	7	24"			
16	GP	14-16'	8	24"		0.8	
18	GP	16-18'	9	24"			
20	GP	18-20'	10	24"	SAA		
22	GP	20-22'	11	24"		1.4	
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-11**
Start Date: 12/16/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Asphalt		
2	HA	0-2'	1	12"	CLAY with some sand and gravel (suspected fill material)	0.0	
4	HA	2-4'	2	24"	Coarse, brown, dry SAND	0.0	
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"			← Bentonite
10	GP	8-10'	5	24"	SAA	2.4	
12	GP	10-12'	6	24"			
14	GP	12-14'	7	24"			
16	GP	14-16'	8	24"		1.8	
18	GP	16-18'	9	24"			
20	GP	18-20'	10	24" ▼	SAA	0.4	
22	GP	20-22'	11	24"			
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-12**
Start Date: 12/16/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Asphalt		
2	HA	0-2'	1	12"	CLAY with some gravel, brick fragments and sand (fill material)	0.1	
4	HA	2-4'	2	24"	Coarse, brown SAND	10.5	
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"		22.5	
10	GP	8-10'	5	24"			← Bentonite
12	GP	10-12'	6	24"		10.2	
14	GP	12-14'	7	24"	SAA		
16	GP	14-16'	8	24"			
18	GP	16-18'	9	24"		49.1	
20	GP	18-20'	10	24"			
22	GP	20-22'	11	24"	SAA	17.2	
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-13**
Start Date: 12/16/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	Coarse, brown, dry SAND (suspected fill material)	0.9	
4	HA	2-4'	2	24"			
6	GP	4-6'	3	24"		0.1	
8	GP	6-8'	4	24"			
10	GP	8-10'	5	24"	SAA		← Bentonite
12	GP						
14	GP						
16	GP				Direct push of Screen Point to collect water sample at 25-29'		
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Nate Keller
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-14**
Start Date: 12/22/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, slag stone, gravel, little clay (fill material)	47.2	
4	HA	2-4'	2	24"			
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"		10.1	
10	GP	8-10'	5	24"	SAA		← Bentonite
12	GP						
14	GP						
16	GP				Direct push of Screen Point to collect water sample at 25-29'		
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

EOB

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-15**
Start Date: 12/22/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Asphalt		
2	HA	0-2'	1	12"	SAND, brick fragments, slag stone, gravel (fill material)	1.4	
4	HA	2-4'	2	24"			
6	GP	4-6'	3	24"	CLAY fill, with gravel, sand, and brick fragments	0.9	
8	GP	6-8'	4	24"			← Bentonite
10	GP	8-10'	5	24"		2.8	
12	GP	10-12'	6	24"	Coarse SAND and gravel, brown	1.6	
14	GP	12-14'	7	24"	SAA		
16	GP	14-16'	8	24"		1.4	
18	GP	16-18'	9	24"			
20	GP	18-20'	10	24"			
22	GP	20-22'	11	24"	SAA	1.1	
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-16**
Start Date: 12/22/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND and gravel, dark brown (fill material)	19.8	
4	HA	2-4'	2	24"	CLAY, brown, silty, with coarse gravel	2.4	
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"	Coarse SAND and gravel	0.1	
10	GP	8-10'	5	24"			← Bentonite
12	GP						
14	GP						
16	GP				Direct push of Screen Point to collect water sample at 25-29'		
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-17**
Start Date: 12/22/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"		1.6	
4	HA	2-4'	2	24"	SAND, fine grain, brown, dry		
6	GP	4-6'	3	24"		6.0	
8	GP	6-8'	4	24"			
10	GP	8-10'	5	24"	SAND, with a little slag stone and gravel, dark brown (fill material)	4.2	← Bentonite
12	GP						
14	GP						
16	GP				Direct push of Screen Point to collect water sample at 25-29'		
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

EOB

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-18**
Start Date: 12/22/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Grass		
2	HA	0-2'	1	12"	CLAY with gravel and brick fragments, brown (fill material)		
4	HA	2-4'	2	24"		1.7	
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"	Coarse SAND and gravel, brown	1.1	← Bentonite
10	GP	8-10'	5	24"			
12	GP	10-12'	6	24"		0.5	
14	GP	12-14'	7	24"			
16	GP	14-16'	8	24"	SAA		
18	GP	16-18'	9	24"		3.4	
20	GP	18-20'	10	24"			
22	GP	20-22'	11	24"		3.5	
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-19**
Start Date: 12/22/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	CLAY with brick fragments and gravel (fill material)	2.6	
4	HA	2-4'	2	24"		1.4	
6	GP	4-6'	3	24"	Coarse SAND and gravel, brown		
8	GP	6-8'	4	24"		2.8	← Bentonite
10	GP	8-10'	5	24"			
12	GP						
14	GP						
16	GP				Direct push of Screen Point to collect water sample at 25-29'		
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

EOB

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-20**
Start Date: 12/22/08
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	Coarse SAND, brown (fill material)	1.3	
4	HA	2-4'	2	24"			
6	GP				Boring terminated due to water main at 6'		← Bentonite
8	GP						
10	GP						
12	GP						
14	GP						
16	GP						
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

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Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-21**
Start Date: 01/14/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, brown, little gravel	14.0	
4	HA	2-4'	2	24"	CLAY, little sand and gravel, brown (suspected fill material)	21.8	
6	GP	4-6'	3	24"		14.8	
8	GP	6-8'	4	24"		12.4	← Bentonite
10	GP	8-10'	5	24"			
12	GP	10-12'	6	24"	Coarse SAND and gravel, brown	17.7	
14	GP	12-14'	7	24"			
16	GP	14-16'	8	24"	Medium SAND, trace gravel	17.9	
18	GP	16-18'	9	24"			
20	GP	18-20'	10	24"			
22	GP	20-22'	11	24"	SAA, Saturated	14.6	
24	GP	22-24'	12	24"			
					EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-22**
Start Date: 01/14/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	Fine SAND, brown, dry	3.2	
4	HA	2-4'	2	24"	Fill SAND, little clay, with gravel and debris (bolts) (fill material)		
6	GP	4-6'	3	24"		1.4	
8	GP	6-8'	4	24"	Medium to Coarse SAND, little gravel, brown		← Bentonite
10	GP	8-10'	5	24"		33.3	
12	GP						
14	GP						
16	GP				Direct push of Screen Point to collect water samples at 26' and 45'		
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

EOB 45'

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-23**
Start Date: 01/14/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Gravel		
2	HA	0-2'	1	12"		4.5	
4	HA	2-4'	2	24"	Sand/Clay/Gravel, some slag stone, reddish brown (fill material)		
6	GP	4-6'	3	24"		3.2	
8	GP	6-8'	4	24"	Coarse SAND and gravel		← Bentonite
10	GP	8-10'	5	24"		0.7	
12	GP						
14	GP						
16	GP				Direct push of Screen Point to collect water samples at 26' and 35', attempted to collect at 45' but no water available		
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

EOB 45'

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Ryan
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-24**
Start Date: 01/14/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Gravel		
2	HA	0-2'	1	12"	CLAY with sand, brick fragments, and gravel, moist (fill material)		
4	HA	2-4'	2	24"		0.3	
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"		0.0	← Bentonite
10	GP	8-10'	5	24"			
12	GP	10-12'	6	24"	Medium SAND, saturated	0.0	
14	GP	12-14'	7	24"		0.0	

EOB

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-25**
Start Date: 01/15/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	Silty CLAY, with sand and gravel, moist, dark gray (suspected fill material)	20.6	
4	HA	2-4'	2	24"			
6	GP	4-6'	3	24"	Coarse SAND and gravel, brown	13.5	← Bentonite
8	GP	6-8'	4	24"			
10	GP	8-10'	5	24"			
12	GP				Direct push of Screen Point to collect water sample at 25-29'		
14	GP						
16	GP						
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP				EOB		

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 13
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-26**
Start Date: 01/15/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Asphalt		
2	HA	0-2'	1	12"	SAND with some Clay, brick fragments and gravel, reddish brown (fill material)	1.3	
4	HA	2-4'	2	24"			
6	GP	4-6'	3	24"		0.7	
8	GP	6-8'	4	24"			← Bentonite
10	GP	8-10'	5	24"	Coarse SAND and gravel	0.3	
12	GP	10-12'	6	24"			
14	GP	12-14'	7	24"		0.1	
16	GP						
18	GP						
20	GP						
22	GP				Direct push of Screen Point to collect water sample at 25-29'		
24	GP						
26	GP						
28	GP						
30	GP						

EOB

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-27**
Start Date: 01/15/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND with slag stones and brick fragments	0.1	
4	HA	2-4'	2	24"	CLAY with gravel and brick fragments (fill material)	1.8	
6	GP	4-6'	3	24"			
8	GP	6-8'	4	24"	Coarse SAND and gravel, brown	0.7	← Bentonite
10	GP	8-10'	5	24"			
12	GP						
14	GP				Direct push of Screen Point to collect water sample at 25-29'		
16	GP						
18	GP						
20	GP						
22	GP						
24	GP						
26	GP						
28	GP						
30	GP						

EOB

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-28**
Start Date: 01/15/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, with brick fragments, gravel, little Clay, reddish brown (fill material)	0.4	
4	HA	2-4'	2	24"			
6	GP	4-6'	3	24"		0.7	
8	GP	6-8'	4	24"	Coarse SAND and gravel		
10	GP	8-10'	5	24"		1.4	← Bentonite
12	GP	10-12'	6	24"		0.6	
14	GP	12-14'	7	24"	SAA		
16	GP	14-16'	8	24"		0.4	
18	GP	16-18'	9	24"			
20	GP	18-20'	10	24"		1.1	
22	GP	20-22'	11	24"	Medium SAND, saturated		
24	GP	22-24'	12	24"		1.4	

Direct push of Screen Point to collect water samples at 26' and 45'

EOB 45'

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-29**
Start Date: 01/15/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.	LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"	Concrete		
2	HA	0-2'	1	12"	SAND, with gravel, dark brown, moist	2.8	
4	HA	2-4'	2	24"	SAND, with gravel, reddish brown, moist (suspected fill material)	1.7	
6	GP	4-6'	3	24"		0.9	
8	GP	6-8'	4	24"	Coarse SAND and gravel, brown		
10	GP	8-10'	5	24"		1.4	← Bentonite
12	GP	10-12'	6	24"		1.1	
14	GP	12-14'	7	24"			
16	GP	14-16'	8	24"		1.3	
18	GP	16-18'	9	24"	SAA		
20	GP	18-20'	10	24"			
22	GP	20-22'	11	24"		1.1	
24	GP	22-24'	12	24"	Medium SAND, trace gravel, brown, Saturated	0.8	

Direct push of Screen Point to collect water samples at 26' and 45'

EOB 45'

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **GP-30**
Start Date: 01/15/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.		LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				12"		Concrete		
2	HA	0-2'	1	12"		SAND, fine grain, light brown	1.2	
4	HA					EOB		
6	GP					Refusal at 3 locations in room.		
8	GP							
10	GP							← Bentonite
12	GP							
14	GP							
16	GP							
18	GP							
20	GP							
22	GP							
24	GP							

(HA) = HAND AUGER (DS) = DISTURBED SAMPLE
(AK) = AIR KNIFE (GP) = GeoProbe
(SS) = SPLIT SPOON bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill : Well Materials

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.: Fibertec
Drill Rig Type: 6620 DT
Driller: Nick
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **HB-31**
Start Date: 02/02/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.		LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				3"		Grass / Topsoil		
0.5	HA	0-6"	1	3"		Topsoil		
						EOB		← Bentonite

(HA) = HAND AUGER
(AK) = AIR KNIFE
(SS) = SPLIT SPOON
(DS) = DISTURBED SAMPLE
(GP) = GeoProbe
bpf = blows per foot
(qP) = Penetrometer Unconfined Compressive Strength

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill :

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE

(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.:
Drill Rig Type:
Driller:
Assistant:

US EPA ARCHIVE DOCUMENT

Boring Log

Associates Inc.
46555 Humboldt Drive, Ste. 100
Novi, MI 48377
Phone: (248) 669-5140
Fax: (248) 669-5147

Project Number: 039.02922.8N01
Project Name: Tecumseh Products
Site Location: Lot 24
City: Tecumseh, Mi
Casing: NA
Screen-Slot Size: NA

Boring Number: **HB-32**
Start Date: 02/02/09
Diameter: NA
Diameter: NA

FEET (BGS) - 0	SAMPLE TYPE	SAMPLE INTERVAL (BGS)	SAMPLE NUMBER	Rec.		LITHOLOGY DESCRIPTION	PID PPM	Borehole Construction
				3"		Gravel		
0.5	HA	0-6"	1	3"		Sand and Gravel		
						EOB		← Bentonite

(HA) = HAND AUGER
(AK) = AIR KNIFE
(SS) = SPLIT SPOON
(qP) = Penetrometer Unconfined Compressive Strength
(DS) = DISTURBED SAMPLE
(GP) = GeoProbe
bpf = blows per foot

Borehole Observations After Drilling
Immediately after:
Hrs. after:
Backfill :

(Rec.) = RECOVERY
(BGS) = Below Ground Surface
(NR) = NO RECOVERY
(NA) = NOT APPLICABLE
(EOB) = END OF BORING
(SAA) = Same As Above

Logged by: Andy Rauser
Drawn by: Andy Rauser
Checked by:
Drilling Co.:
Drill Rig Type:
Driller:
Assistant:

SOIL BORING LOG

RMT

BORING NO. NS-1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/17/09	4/17/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	24.0	2

Boring Location:	Personnel	Drilling Equipment:
118 feet west of east wall, 13 feet south of north wall	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/17/09 00:00 ▽ Depth (ft bgs) 20 After Drilling: Date/Time 4/17/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE		///	1.3	Soil sample collected at 0-4 feet.
1 GP	50		2	**FILL** mostly medium sand, some fine sand, trace gravel, pale brown (10YR 6/3) grading to dark grayish brown (10YR 4/2), dry, medium dense.			1.3	
			4	**CLAY WITH SAND** mostly clay, some silt, little medium sand, few fine sand, low plasticity, very dark brown (10YR 2/2), dry to moist, stiff to very stiff.	CL		0.7	
2 GP	71		6	Change to few coarse sand, little to some medium sand at 4.5 feet.			0.5	
				SAND WITH GRAVEL mostly medium sand, some fine sand, little coarse sand, trace silt, trace gravel, brown (10YR 5/3), dry, medium dense.			1.5	
			8	Change to no silt at 6.5 feet.			1.2	
3 GP	69		10	Change to trace coarse sand, no gravel at 10.0 feet.	SW		3.0 1.9	
			12				1.1	
4 GP	67		14	Change to few coarse sand at 14.0 feet.			0.4 0.8	
							1.8	

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

SOIL BORING LOG

RMT

BORING NO. NS-1

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			16	Change to dark grayish brown (10YR 4/2) at 16.0 feet.			0.6	Soil sample collected at 16-20 feet.
				Change to trace fine gravel, dense at 17.0 feet.				
5 GP	60		18				0.7	
							2.3	
			20	▽ Change to saturated at 20.0 feet.	SW			Groundwater sample collected at 20-24 feet.
6 GP	77		22					
			24	End of boring at 24.0 feet below ground surface.				
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. NS-2

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/16/09	4/16/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	20.0	2

Boring Location: 48 feet west of eastwall, 107 feet south of north wall

Personnel
Logged By - Scott Middlebrook
Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/16/09 00:00 ▽ Depth (ft bgs) 19.5
After Drilling: Date/Time 4/16/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE				Soil sample collected at 0-4 feet.
1 GP	48		2	**SAND** mostly medium sand, some fine sand, brown (7.5YR 4/2), dry, dense, fill.	SP		0 0.5	
				GRAVEL road fill.	GP		0	
			4	**SANDY CLAY** mostly clay, some medium sand, little silt, few fine sand, nonplastic, very dark gray (7.5YR 3/1), dry, very stiff.	CL			
2 GP	23		6	**SAND** mostly medium sand, some fine sand, few coarse sand, trace gravel, brown (7.5YR 5/3), dry, loose. Crushed cobble at 6.0 feet.			1.9	Poor recovery at 5.5 feet.
3 GP	69		8 10	Same as above.	SW		5.2 2.4 3.1	Soil sample collected at 8-12 feet.
4 GP	60		12 14	Same as above.			1.1 4.2	
5			16	Same as above.			2.0 0.7 2.0	

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

SOIL BORING LOG

RMT

BORING NO. NS-2

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
GP	81		20	▽ Change to saturated at 19.5 feet. Blind drill to 24.0 feet.	SW		1.3	Groundwater sample collected at 20-24 feet.
			24	End of boring at 24.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. NS-3

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/15/09	4/15/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	20.0	2

Boring Location:	Personnel	Drilling Equipment:
On TPC property east of main building, about 150 feet south of Patterson Street	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/15/09 00:00 ▽ Depth (ft bgs) 16 After Drilling: Date/Time 4/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	54		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little coarse sand, few medium sand, trace fine sand, trace gravel, low plasticity, yellowish red (5YR 5/6), moist, very stiff.	CL		0	
				SAND mostly coarse sand, some medium sand, little fine sand, trace silt, brown (7.5YR 5/3), dry, medium dense.			0	
			4				0	
2 GP	77		6		SW		0	
			8	Change to some coarse sand at 8.0 feet.			0	
							0	
3 GP	67		10	**SAND** mostly medium sand, little coarse sand, few fine sand, yellowish brown (10YR 5/4), dry, medium dense.			0	
							0	
			12				0	
4 GP	63		14				0	
					SW		0	
			16 ▽	Change to trace gravel, brown (10YR 4/5), saturated at 16.0 feet.			0	Groundwater sample collected at 16-20 feet.
5 GP	69		18				0	
							0	
			20	Blind drill to 41.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:	Firm: RMT Inc.	(734) 971-7080
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SOIL BORING LOG

RMT

BORING NO. NS-3

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			22					
			24					
			26					
			28					
			30					
			32					
			34					
			36					
			38					Groundwater sample collected at 37-41 feet.
			40					
				End of boring at 41.0 feet below ground surface.				
			42					
			44					
			46					
			48					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. NS-4

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/16/09	4/16/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	20.0	2

Boring Location:	Personnel	Drilling Equipment:
On TPC property east of main building, about 300 feet south of MW-4s	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/16/09 00:00 ▽ Depth (ft bgs) 14 After Drilling: Date/Time 4/16/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				ROAD GRAVEL			0	
1 GP	33		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little coarse sand, some medium sand, trace gravel, low plasticity, reddish brown (5YR 4/4), moist, soft.	CL			
				SAND mostly medium sand, some coarse sand, little fine sand, trace gravel, brown (10YR 5/3), dry, medium dense.			0	
2 GP	67		4				0	
			6					
							0	
			8	Change to little to some coarse sand, trace cobble at 8.0 feet.			0.9	Soil sample collected at 8-12 feet.
3 GP	48		10				0.6	
					SW			
			12				0.5	
							0.3	
4 GP	60		14 ▽	Change to saturated at 14.0 feet.				Groundwater sample collected at 14-18 feet.
			16	Same as above.			0	
5 GP	81		18					
			20	Blind drill to 36.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:	Firm: RMT Inc.	(734) 971-7080
	3754 Ranchero Drive Ann Arbor, MI 48108	Fax (734) 971-9022

SOIL BORING LOG

RMT

BORING NO. NS-4

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			22					
			24					
			26					
			28					
			30					
			32					Groundwater sample collected at 32-36 feet.
			34					
			36	End of boring at 36.0 feet below ground surface.				
			38					
			40					
			42					
			44					
			46					
			48					

SOIL BORING LOG

RMT

BORING NO. NS-10

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/21/09	4/21/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	24.0	2

Boring Location: Hallway between "D" and "Shipping Storage"

Personnel
Logged By - Stacy Metz
Driller - Steve Bischoff

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/21/09 00:00 ▽ Depth (ft bgs) 21
After Drilling: Date/Time 4/21/09 00:00 ▼ Depth (ft bgs) 21

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE			1.9	
1 GP	69		2	**CLAYEY SAND** mostly fine sand, little clay, few coarse sand, few fine gravel, very dark brown (7.5YR 2.5/3), dry, dense.			0.9	
				Change to black (7.5YR 2.5/1), strong odor from 2.25 feet to 2.5 feet.	SC		4.9	
			4	Strong odor at 4.0 feet.			28.9	
2 GP	54		6	**CLAY** mostly clay, trace to few fine sand, high plasticity, very dark gray (10YR 3/1), strong odor, moist, very soft.	CL		43.0	
				CLAYEY SAND mostly fine sand, little clay, few coarse sand, few fine gravel, very dark brown (7.5YR 2.5/1), strong odor, dry, dense.	SC		54.6	
			8				97.1	
				CLAY mostly clay, little fine sand, slight plasticity, black (7.5YR 2.5/1), strong odor, dry, stiff.	CL		180.0	Soil sample collected at 8-9 feet.
3 GP	75		10	**CLAY** mostly clay, few fine sand, plastic, very dark grayish brown (10R 3/2), strong odor, moist, very soft to medium stiff.	CL		377.0	Soil sample collected at 10-11 feet.
							242.0	
			12	**SAND** mostly fine to coarse sand, little fine to coarse gravel, dark yellowish brown (10YR 4/6), strong odor, dry, dense.			214.0	
							52.5	
							32.5	
							21.8	
4 GP	65		14	Change to trace gravel at 14.0 feet.	SW		13.6	
							8.0	

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
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SOIL BORING LOG

RMT

BORING NO. NS-10

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
5 GP	67		18	Same as above.	SW		10.3	
							6.0	
			20				9.5	
6 GP				▼ Change to saturated at 21.0 feet.				Groundwater sample collected at 21-25 feet.
			22					
			24	End of boring at 24.0 feet below ground surface.				
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. NS-11

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/15/10	9/15/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	28.0	2

Boring Location:	Personnel	Drilling Equipment:
In Building Area B, 1 foot west of Grid Location E3	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe 6610DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/15/10 00:00 ▽ Depth (ft bgs) 23.75 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**CONCRETE**				Soil sample collected from 0-4 feet at 8:45
				SILTY SAND WITH GRAVEL mostly fine to coarse sand, some fine to coarse angular to subangular gravel, little silt, dark yellowish brown (10YR 3/6), no odor, dry to moist, loose, fill.	SM		2	
1 GP	33		2	**CLAYEY SAND** mostly fine sand, some clay, slightly plastic, dark yellowish brown (10YR 3/6), moist, no odor, loose.	SC		0	
				CLAYEY SAND WITH GRAVEL mostly fine sand, some coarse gravel, little clay, slightly plastic, dark yellowish brown (10YR 3/6), moist, no odor, loose.	SC		0	
			4	**POORLY GRADED SAND WITH GRAVEL** mostly fine sand, few medium to coarse sand, some fine to coarse angular to subangular gravel, dark yellowish brown (10YR 3/6), dry, no odor, loose.			2	
2 GP	65		6				1	
			8	Change to subangular to subrounded gravel at 8 feet below ground surface.			0	
3 GP	63		10		SP		0	
			12	Change to little fine to medium gravel at 12 feet below ground surface.			10	
4 GP	70		14	2-inch clay lens at 14 feet below ground surface.			2	

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
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Fax 734-971-9022

Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. NS-11

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
5 GP	73		18	**POORLY GRADED SAND** mostly fine sand, few medium to coarse sand, trace fine to medium subangular to subrounded gravel, dark yellowish brown (10YR 3/6), dry, no odor, loose.	SP		0 1	
6 GP	68		20 22	**POORLY GRADED SAND WITH GRAVEL** mostly fine sand, few medium to coarse sand, little fine to medium subangular to subrounded gravel, dark yellowish brown (10YR 3/6), dry, no odor, loose. 1-inch clay lens at 22 feet below ground surface.			2	Soil sample collected from 22-23 feet at 9:10
7 GP	70		24 26	Change to moist at 23 feet below ground surface. ▽ Change to saturated at 23.75 feet below ground surface. Same as above.	SP		0	Temporary well screened from 23-28 feet, groundwater sample collected at 12:40
			28 30 32 34 36	End of boring at 28.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.12 2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

SOIL BORING LOG

RMT

BORING NO. NS-12

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/15/10	9/15/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	28.0	2

Boring Location:	Personnel	Drilling Equipment:
In Building Area B, 5 feet west and 2 feet north of Grid Location E7	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe 6610DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/15/10 00:00 ▽ Depth (ft bgs) 24 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**CONCRETE**				Soil sample collected from 0-2 feet at 9:30
1 GP	45		2	**SILTY SAND** mostly fine sand, little to few medium to coarse sand, little silt, few fine gravel, light reddish brown (5YR 6/4), dry, loose. Change to red (10R 4/8) at 2 feet below ground surface.	SM		47	
			4	**SILTY SAND** mostly fine sand, little to few medium to coarse sand, little silt, few fine gravel, very dark gray (5YR 3/1), strong petroleum odor, dry, loose.	SM		2700	
2 GP	58		6	**SILTY SAND WITH GRAVEL** mostly fine sand, little to few medium to coarse sand, little silt, little fine angular gravel, very dark gray (5YR 3/1), strong petroleum odor, dry, loose. Change to angular to subrounded gravel, light reddish brown (5YR 6/4), mild petroleum odor at 6 feet below ground surface.	SM		1700 60	
3 GP	55		8 10	**SILTY SAND** mostly fine sand, little to few medium to coarse sand, little silt, few fine angular to subrounded fine gravel, light reddish brown (5YR 6/4), mild petroleum odor, dry, loose.	SM		83 52	
4 GP	60		12 14	Change to slight petroleum odor at 12 feet below ground surface.			37	
				WELL GRADED SAND mostly fine to coarse sand, few silt, trace gravel, dark brown (10YR 3/3), dry, no odor, loose.	SW		14	

SOIL_BORING WELL_CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature:

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Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. NS-12

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				Same as above.				
5 GP	63		18				10.1	
							17	
			20	Same as above.				
							9.0	
6 GP	70		22		SW			Soil sample collected from 22-24 feet at 9:50
				Change to moist at 23 feet below ground surface.			12	
			24 ▽	Change to very dark brown (10YR 2/2), strong petroleum odor, saturated at 24 feet below ground surface.				Temporary well screened from 23-28 feet, groundwater sample collected at 11:45
7 GP	65		26					
			28	End of boring at 28.0 feet below ground surface.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

SOIL BORING LOG

RMT

BORING NO. NS-13

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/16/10	9/16/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	28.0	2

Boring Location:	Personnel	Drilling Equipment:
Adjacent to SV-11 in Building Area E, 15 feet south of Grid Location F17	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/16/10 00:00 ▽ Depth (ft bgs) 23.5 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**CONCRETE**				
1 GP	40		2	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little gravel, dark yellowish brown (10YR 3/4), dry to moist, no odor, loose.	SM		4.0	Soil sample collected from 0.5-4.0 feet at 18:38
2 GP	45		4	**SANDY LEAN CLAY WITH GRAVEL** mostly clay, little sand, little gravel, few silt, slightly plastic, dark yellowish brown (10YR 3/4), moist, no odor, very stiff.	CL		11.4	
			6	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little gravel, dark yellowish brown (10YR 3/4), dry to moist, no odor, loose.	SM		6.7	
3 GP	63		8	Same as above.				
			10	**SILTY SAND** mostly fine to coarse sand, little silt, trace to few gravel, dark yellowish brown (10YR 3/4), dry to moist, no odor, loose.	SM		6.2	
4 GP	55		12	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little gravel, dark yellowish brown (10YR 3/4), dry to moist, no odor, loose.	SM		40.4	
			14	Change to slight petroleum odor at 15 feet below ground surface.			11.3	

SOIL BORING WELL CONSTRUCTION LOG 8070.12 2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature: _____ Firm: RMT, Inc. 3754 Ranchero Drive Ann Arbor, MI 48108 734-971-7080 Fax 734-971-9022

Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. NS-13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			16	Change to no odor at 16 feet below ground surface.			32.1	
5 GP	48		18				26.5	
			20	Change to moist at 20 feet below ground surface.			31.0	Soil sample collected from 21-23 feet at 18:55
6 GP	68		22		SM		33.5	
			23.5 ▽	Change to saturated at 23.5 feet below ground surface.				
			24	Same as above.				Temporary well screened from 23-28 feet, groundwater sample and DUP-02 collected at 19:39
7 GP	58		26					
			28	End of boring at 28 feet below ground surface.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

SOIL BORING LOG

RMT

BORING NO. NS-14

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/17/10	9/17/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	28.0	2

Boring Location: In Building Area D, 17 feet east and 13 feet south of Grid Location D12, near SV-06

Personnel: Logged By - Stacy Metz; Driller - Craig Tanicala

Drilling Equipment: Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 9/17/10 00:00 ▽ Depth (ft bgs) 23.75
After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE		///		
1 GP	50		2	**FILL** some cobbles, some gravel, little poorly graded sand, red (2.5 YR 5/8) and yellowish brown (10YR 5/4), dry, no odor, medium dense.			6.5 4.1	Soil sample collected from 0.5-3.5 feet at 9:04
2 GP	20		4 6	**SANDY LEAN CLAY WITH GRAVEL** mostly clay, some sand, little coarse gravel, plastic, dark yellowish brown (10YR 3/4), moist, no odor, medium stiff to stiff.	CL		1.3	Low recovery due to gravel in sampler
3 GP	65		8 10	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little gravel, dark yellowish brown (10YR 4/4), dry to moist, no odor, medium dense. Change to slight petroleum odor at 10 feet below ground surface.			4.6 7.0	
4 GP	58		12 14	Change to no odor at 12 feet below ground surface.	SM		3.6 5.4	

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature:

Checked By: John Bacon

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SOIL BORING LOG

RMT

BORING NO. NS-14

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			18	Same as above.	SM		11.0	
5 GP	53							
				SILTY SAND mostly fine to coarse sand, little silt, few gravel, dark yellowish brown (10YR 4/4), dry, no odor, medium dense.			17.8	
			20	Change to trace gravel at 20 feet below ground surface.			9.8	
6 GP	75		22	Change to moist at 22 feet below ground surface.				Soil sample collected from 22-23 feet at 9:40
							17.4	
				▽	SM			
			24	Change to saturated at 23.75 feet below ground surface.				Temporary well screened from 23-28 feet, groundwater sample collected at 10:23
7 GP	68		26					
			28	End of boring at 28 feet below ground surface.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

SOIL BORING LOG

RMT

BORING NO. NS-15

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/17/10	9/17/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	28.0	2

Boring Location:	Personnel	Drilling Equipment:
In Building Area P, 3 feet south of Grid Location J7	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/17/10 00:00 ▽ Depth (ft bgs) 22 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**CONCRETE**				
				SILTY SAND WITH GRAVEL mostly fine sand, little silt, little gravel, dark brown (7.5YR 3/3), dry, no odor, dense, fill.	SM		33.7	
1 GP	68		2	Change to black (10YR 2/1), strong petroleum odor.			298	Soil sample collected from 2-4 feet at 10:45
				SANDY LEAN CLAY mostly clay, some fine sand, little silt, plastic, brown (10YR 4/3), moist, no odor, very stiff.	CL		23.8	
			4	Same as above.				
				SILTY SAND WITH GRAVEL mostly fine to coarse sand, little silt, little fine to coarse subrounded to subangular gravel, trace cobbles, dark yellowish brown (10YR 3/4), dry to moist, no odor, loose to medium dense.	SM		0.0	
2 GP	63		6				1.6	
			8	Same as above.			10.3	
3 GP	73		10					
				SILTY SAND mostly fine to coarse sand, little silt, trace to few fine to coarse subrounded to subangular gravel, trace cobbles, dark yellowish brown (10YR 3/4), dry to moist, no odor, loose to medium dense.	SM		6.0	
			12	Same as above.			6.1	
4 GP	75		14				11.1	

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature: Marc Metz

Checked By: John Bacon

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

SOIL BORING LOG

RMT

BORING NO. NS-15

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				Same as above.			3.7	
5 GP	75		18				5.5	Soil sample collected from 19-20 feet at 11:20
			20	Same as above.			10.4	Low recovery due to rock in sampler, collect soil sample from above
6 GP	15		22 ▽	Change to saturated at 22 feet below ground surface.	SM			Groundwater depth estimated based on driller comments
			24	Same as above.				Temporary well screened from 22-27 feet, groundwater sample collected at 11:43
7 GP	23		26					
			28	End of boring at 28 feet below ground surface.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

SOIL BORING LOG

RMT

BORING NO. NS-16

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/17/10	9/17/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	24.0	2

Boring Location:	Personnel	Drilling Equipment:
In Building Area P, 1 foot west of Grid Location J10	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/17/10 00:00 ▽ Depth (ft bgs) 22 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**CONCRETE**				
1 GP	58		2	**SILTY SAND WITH GRAVEL** mostly fine sand, some silt, few gravel, dark yellowish brown (10YR 4/6), dry, no odor, dense, fill.	SM		5.8	
				Change to black (10YR 2/1).			5.7	Soil sample collected from 2-4 feet at 16:01
				SANDY LEAN CLAY mostly clay, some fine sand, little silt, plastic, dark yellowish brown (10YR 3/4), moist, no odor, medium stiff to stiff.	CL		1.0	
			4	Change to dry.			1.6	
2 GP	68		6	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little subrounded gravel, dark yellowish brown (10YR 3/4), dry, slight odor, medium dense.	SM		5.1	
				Change to no odor at 6.25 feet below ground surface.				
			8	Change to trace cobbles at 8 feet below ground surface.			4.7	
3 GP	78		10	**SILTY SAND** mostly fine to coarse sand, little silt, few to trace subrounded gravel, trace cobbles, dark yellowish brown (10YR 3/4), dry, no odor, medium dense.	SM		8.2	
			12	Same as above.			11.9	
4 GP	73		14				11.2	

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature: _____

Checked By: John Bacon

Firm: RMT, Inc.
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734-971-7080
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RMT

SOIL BORING LOG

BORING NO. NS-16

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			18	Same as above.			13.4	
5 GP	73						12.7	Soil sample collected from 19-20 feet at 18:13
			20	Same as above.	SM			Low recovery due to rock in sampler, collect soil sample from above
6 GP	48		22	▽ Change to saturated at 22 feet below ground surface.				Temporary well screened from 19-24 feet, groundwater sample collected at 18:46
			24	End of boring at 24 feet below ground surface.				Heaving sands prevent collection of 24-28 foot sample interval
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

SOIL BORING LOG

RMT

BORING NO. NS-17

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/17/10	9/17/10	8070.12

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	28.0	2

Boring Location:	Personnel	Drilling Equipment:
In the southwest corner of Building Area K, adjacent to Grid Location A13	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/17/10 00:00 ▽ Depth (ft bgs) 23.75 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE		///		
				SILTY SAND WITH GRAVEL mostly fine to coarse sand, little silt, little gravel, very dark brown (10YR 2/2), dry to moist, no odor, dense, fill.	SM		13.4	Soil sample collected from 0.5-2 feet at 19:06
1 GP	73		2	**SANDY LEAN CLAY** mostly clay, some fine to coarse sand, plastic, dark brown (10YR 3/3), moist, no odor, medium stiff to stiff.	CL		0.0	
			4	**SANDY LEAN CLAY WITH GRAVEL** mostly clay, some fine to coarse sand, little gravel, plastic, dark brown (10YR 3/3), moist, no odor, medium stiff to stiff.	CL		0.0	
2 GP	55		6	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little gravel, trace cobbles, dark yellowish brown (10YR 4/4), dry, no odor, medium dense.	SM		0.0	
3 GP	80		8	**SILTY SAND** mostly fine to coarse sand, little silt, few gravel, trace cobbles, dark yellowish brown (10YR 4/4), dry, no odor, medium dense.	SM		0.0	
			10				0.3	
			12	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little gravel, trace cobbles, dark yellowish brown (10YR 4/4), dry, no odor, medium dense.	SM		0.0	
4 GP	65		14					
				SILTY SAND mostly fine to coarse sand, little silt, few gravel, trace cobbles, dark yellowish brown (10YR 4/4), dry, no odor, medium dense.	SM		0.0	

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

Signature: _____ Firm: RMT, Inc. 734-971-7080
3754 Ranchero Drive Ann Arbor, MI 48108 Fax 734-971-9022

Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. NS-17

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			18	Same as above. Change to moist at 17 feet below ground surface.			0.0	
5 GP	75							
			20	Same as above.			0.0	
6 GP	80		22		SM		0.0	Soil sample collected from 22-23 feet at 19:10
			24	▽ Change to saturated at 23.75 feet below ground surface.			0.0	Temporary well screened from 23-28 feet, groundwater sample collected at 19:36
7 GP	73		26	Change to very dark grayish brown (10YR 3/2), petro odor at 25.5 feet below ground surface. Change to dark yellowish brown (10YR 4/4), no odor at 26.25 feet below ground surface.				
			28	End of boring at 28 feet below ground surface.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.12 1/12/11

SOIL BORING LOG

RMT

BORING NO. SS-1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/15/09	4/15/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	49.0	2

Boring Location:	Personnel	Drilling Equipment:
Inside main building about 100 feet south of GP-21	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/15/09 00:00 ▽ Depth (ft bgs) 23.5 After Drilling: Date/Time 4/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**CONCRETE**		///	
1 GP	54		2	**SAND** mostly fine sand, few coarse sand, dark yellowish brown (10YR 4/4), dry, dense.	SP		Soil sample collected at 1.0-1.5 feet.
			4				
2 GP	29		6	**SANDY CLAY** mostly clay, some fine to medium sand, few gravel, slight plasticity, dark yellowish brown (10YR 3/6), dry to moist, stiff. Change to little coarse gravel at 6.25 feet.	CL		
			8				
3 GP	75		10	**SAND** mostly fine to coarse sand, few fine to coarse gravel, loose, dark yellowish brown (10YR 4/6), dry.			
			12	Same as above.	SW		
4 GP	75		14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:	Firm:	
	RMT Inc. 3754 Ranchero Drive Ann Arbor, MI 48108	(734) 971-7080 Fax (734) 971-9022

SOIL BORING LOG

RMT

BORING NO. SS-1

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
5 GP	73		18	Same as above.	SW		
			20	Same as above.			
6 GP	75		22	**SAND WITH GRAVEL** mostly sand, little to some fine gravel, very dark brown (10YR 2/2), wet to saturated, dense.	SW		
				▽ Saturated at 23.5 feet.			
			24	Blind drill to 49.0 feet. No drilling change from 24.0 to 49.0 feet.			Groundwater sample collected at 24-28 feet.
			26				
			28				
			30				
			32				
			34				
			36				

RMT

SOIL BORING LOG

BORING NO. SS-1

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			38				
			40				
			42				
			44				
			46				Groundwater sample collected at 45-49 feet.
			48				
				End of boring at 49.0 feet below ground surface.			
			50				
			52				
			54				
			56				
			58				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. SS-2

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/16/09	4/16/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	24.0	2

Boring Location:	Personnel	Drilling Equipment:
Inside main building about 100 feet north of GP-21	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/16/09 00:00 ▽ Depth (ft bgs) 20.5 After Drilling: Date/Time 4/16/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE		///		
1 GP	38		2	**CLAY WITH SAND** mostly clay, some fine sand, little silt, trace coarse sand, nonplastic, brown (10YR 4/3), dry, very stiff.				
			4		CL			
2 GP	0		6	No recovery from 4.0 to 8.0 feet, stone in tip of rods.				
			8					
3 GP	67		10	**SAND** mostly medium sand, little coarse sand, few fine sand, trace gravel, pale brown (10YR 6/3), slight odor, dry, loose.			2.3 6.1 2.5	Soil sample collected at 8-12 feet.
			12		SW			
4 GP	67		14	Change to few to little coarse sand at 12.0 feet.			14.9 10.4 10.0	

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:	Firm: RMT Inc. 3754 Ranchero Drive Ann Arbor, MI 48108	(734) 971-7080 Fax (734) 971-9022

SOIL BORING LOG

RMT

BORING NO. SS-2

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				Same as above.			6.9	Soil sample collected at 16-20 feet.
5 GP	81		18				10.7	
			20		SW		18.0	Groundwater sample collected at 20-24 feet.
				▽ Change to saturated at 20.5 feet.			3.7	
6 GP			22	Change to some coarse sand at 22.0 feet.			7.4	
							3.1	
			24	Blind drill to 46.0 feet.				
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT

SOIL BORING LOG

BORING NO. SS-2

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			38					
			40					
			42					Groundwater sample collected at 42-46 feet.
			44					
			46	End of boring at 46.0 feet below ground surface.				
			48					
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. SS-3

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/16/09	4/16/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	24.0	2

Boring Location:	Personnel	Drilling Equipment:
Inside main building along southern wall of Section G	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/16/09 00:00 ▽ Depth (ft bgs) 19.75 After Drilling: Date/Time 4/16/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE		/// ///		
1 GP	25		2	**CLAY WITH SAND** mostly clay, little medium sand, trace coarse sand, nonplastic, brown (10YR 4/3), dry, very stiff.	CL			
			4				2.7	
2 GP	60		6	**SAND** mostly medium sand, some fine sand, few coarse sand, trace gravel, dark yellowish brown (10YR 4/6), dry, medium dense.			6.0	
							3.9	
			8	Change to little coarse sand at 8.0 feet.			4.4	Soil sample collected at 8-12 feet.
3 GP	58		10		SW		6.7	
				Change to trace coarse sand at 11.0 feet.			7.3	
			12				1.5	
4 GP	69		14	Change to few coarse sand at 13.0 feet.			10.6	
				Change to trace coarse sand at 15.0 feet.			8.3	

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
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SOIL BORING LOG

RMT

BORING NO. SS-3

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			18	Same as above.			4.3	Soil sample collected at 16-20 feet.
5 GP	79						18.6	
			20	▽Change to wet at 19.5 feet. Change to saturated at 19.75 feet.	SW		12.1	Groundwater sample collected at 20-24 feet.
6 GP	81		22				1.9	
			24				1.4	
				End of boring at 24.0 feet below ground surface.			0	
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING LOG

RMT

BORING NO. SS-4

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/17/09	4/17/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	24.0	2

Boring Location:	Personnel	Drilling Equipment:
Inside main building in Section M about 50 feet west of GP-21	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/17/09 00:00 ▽ Depth (ft bgs) 22 After Drilling: Date/Time 4/17/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
				CONCRETE		///		
1 GP	46		2	**SAND** mostly fine sand, some medium sand, light yellowish brown (10YR 6/4) grades to yellowish brown (10YR 5/4), dry, dense, fill.	SP		4.6 2.5 3.3	
			4				5.0	
2 GP	60		6	**CLAYEY SAND** mostly coarse sand, some clay, little medium sand, few fine sand, few silt, brown (10YR 4/3), dry, dense.	SW-SC		9.5	
				SAND mostly medium sand, some coarse sand, little medium sand, pale brown (10YR 6/3), dry, loose.			6.9	
			8				30.0	Soil sample collected at 8-12 feet.
3 GP	79		10	Above grades to mostly coarse sand, some medium sand, trace gravel, yellowish brown (10YR 5/4) at 8.5 feet.	SW		69.7 28.8	
			12				53.3	Soil sample collected at 12-16 feet.
4 GP	71		14	Change to mostly medium sand, little fine sand, trace coarse sand, pale brown (10YR 6/3) at 14.5 feet.			80.2 41.9	

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
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SOIL BORING LOG

RMT

BORING NO. SS-4

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
5 GP	69		18	Change to few coarse sand at 17.5 feet.	SW		15.3 9.0	
			20				20.7	
6 GP	75		22	▽ Change to saturated at 22.0 feet.			18.2 14.4	Groundwater sample collected at 22-24 feet.
			24	End of boring at 24.0 feet below ground surface.				
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

US EPA ARCHIVE DOCUMENT

Perimeter and Off-Site Investigation Locations

Available soil boring logs for perimeter and off-site investigation locations conducted by TRC between March 2009 and April 2011 are attached. During early investigation activities soil boring logs were not prepared for all sample locations. Soil boring information for those sample locations is provided in the table below:

Description of Samples Collected at Soil Boring Locations That Were Not Logged

Sample Location	Sample Date	Groundwater Sample Collection Depth(s) (ft)
B-02	3/10/2009	22-26' and 33-37'
B-03	3/9/2009	26-30' and 38-42'
B-04	3/10/2009	19-23' and 29-33'
B-05	3/10/2009	14-18' and 22-26'
B-10	4/16/2009	24-28'
B-11	4/16/2009	29-33'
B-12	4/16/2009	24-28'
B-15	4/20/2009	24-28' and 44-48'
B-17	4/20/2009	24-28'
B-25	4/16/2009	7-11' and 31-35'
B-27b*	4/16/2009	8-10'
B-28b*	4/16/2009	16-18'

*Asterisk indicates the grab groundwater sample was collected from the utility corridor.

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-1s/B-1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/12/09	3/12/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	24.0	2-8

Boring Location: On TPC property, 10 feet south of B-1, about 600 feet west of Maumee Street and 1400 feet south of Patterson Street

Personnel: Logged By - Scott Middlebrook; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/12/09 00:00 ▽ Depth (ft bgs) 16.5
After Drilling: Date/Time 3/12/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ROAD GRAVEL** dry.	GP			
				SAND mostly medium sand, some fine sand, little silt, trace coarse sand and gravel, dark brown (7.5YR 3/2), dry, dense.	SW			
1 GP	79		2	**SANDY CLAY** mostly clay, some medium sand, little silt, few coarse sand, trace gravel, low plasticity, strong brown (7.5YR 4/6), dry, stiff. Coarse sand content increases with depth.	CL			
			4	**SAND** mostly coarse sand, some medium sand, little fine sand, trace clay, pale brown (10YR 6/3), dry, loose.				
2 GP	77		6	Change to no clay at 6.0 feet.				
			8		SW			
				Change to mostly medium sand, some coarse sand at 8.5 feet.				
3 GP	67		10					
			12	**SAND** mostly medium sand, some fine sand, trace coarse sand, pale brown (10YR 6/3), dry, loose.				
4 GP	73		14		SP			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-1s/B-1

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18	▽ **SAND** mostly medium sand, some fine sand, few coarse sand, trace gravel, brown (7.5YR 4/2), saturated, loose.	SP			
5 GP	69		20	Change to trace coarse sand, no gravel at 20.5 feet.	SW			
6 GP	98		22					
			24	Blind drill to 50.0 feet.				
			26					Groundwater sample collected at 26-30 feet.
			28					
			30					
			32					
			34					
			36					

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-1s/B-1

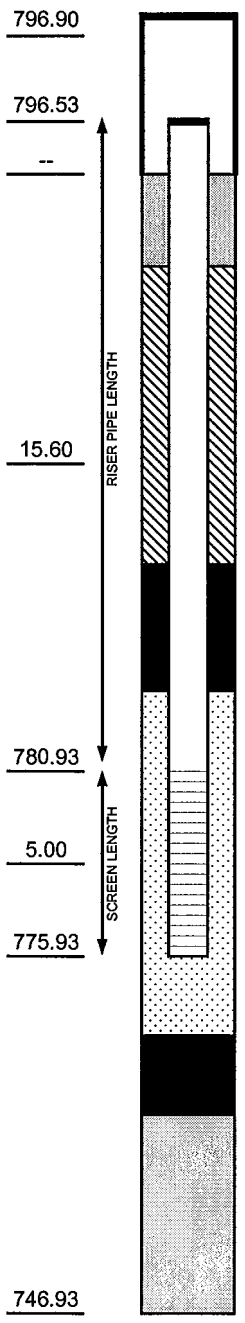
SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					
			46					Groundwater sample collected at 46-50 feet.
			48					
			50	End of boring at 50.0 feet below ground surface.				
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-1S
PROJ. NO:	8070.02	DATE INSTALLED:	3/12/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



796.90	0.0 GROUND SURFACE
796.53	0.4 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
15.60	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	15.0 BENTONITE SEAL
780.93	16.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
775.93	21.0 BOTTOM OF SCREEN
	21.5 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
746.93	50.0 HOLE BOTTOM

NOTES:

5.0 GALLONS OF WATER ADDED TO SET WELL.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:

8.0	IN. FROM	0.0	TO	21.5	FT.
2.0	IN. FROM	21.5	TO	24.0	FT.
1.0	IN. FROM	24.0	TO	50.0	FT.
NA	IN. FROM	NA	TO	NA	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 25 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	20.80	T/PVC	3/12/2009	1804
DTB AFTER DEVELOPING:	20.80	T/PVC	3/12/2009	1835
SWE BEFORE DEVELOPING:	16.09	T/PVC	3/12/2009	1804
SWE AFTER DEVELOPING:	16.11	T/PVC	3/12/2009	1835
OTHER SWE: DURING DEVEL.	16.20	T/PVC	3/12/2009	1818
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-6s/B-6

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	3/13/09	3/13/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	28.0	2-8

Boring Location: On TPC property, on southeast of corner of Evans Street and Patterson Street in parking lot

Personnel: Logged By - Scott Middlebrook; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/13/09 00:00 ▽ Depth (ft bgs) 23.5
After Drilling: Date/Time 3/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ASPHALT**				
				ROAD GRAVEL				
1 GP	56		2	**SANDY CLAY** mostly clay, some coarse sand, little medium sand, few silt, trace gravel, medium plasticity, very dark brown (7.5YR 2.5/2), wet, stiff. Change to strong brown (7.5YR 5/6), clay content decreases and coarse sand content increases with depth.	CL			
			4	**SAND** mostly coarse sand, some medium sand, little fine sand, few gravel, brown (7.5YR 5/3), dry, loose.				
2 GP	63		6	Change to trace clay, trace silt, dark yellowish brown (10YR 4/4) at 5.5 feet.				
			8	Change to few to little gravel, trace crushed cobble at 8.0 feet.	SW			
3 GP	54		10					
			12					
				SAND mostly medium sand, some coarse sand, little fine sand, yellowish brown (10YR 5/4), moist, dense.				
4 GP	58		14		SW			
				SAND mostly coarse sand, some medium sand, few fine	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-6s/B-6

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				sand, trace gravel, brown (10YR 5/3), moist, loose.				
5 GP	60		18	Change to mostly medium sand, little coarse sand, dense at 18.0 feet.	SW			
			20	**SAND** mostly coarse sand, some medium sand, little fine sand, few silt, trace gravel, brown (10YR 5/3), moist, dense.				
6 GP	63		22	Change to yellowish brown (10YR 5/8) 21.5 feet.	SW			
				▽ Change to no silt, brown (7.5YR 5/3) at 23.0 feet.				
			24	**SAND** mostly medium sand, some coarse sand, little fine sand, dark grayish brown (10YR 4/2), saturated, loose.				
7 GP	73		26	Coarse sand content decreases with depth.	SW			
			28	Blind drill to 48.0 feet.				
			30					
			32					
			34					
			36					

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-6s/B-6

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					Groundwater sample collected at 44-48 feet.
			46					
			48	End of boring at 48.0 feet below ground surface.				
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	**MW-6S**
PROJ. NO:	8070.02	DATE INSTALLED:	3/13/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
804.30	0.0	GROUND SURFACE
803.73	0.6	TOP OF CASING
--	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
23.40	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.5	BENTONITE SEAL
780.33	24.0	TOP OF SCREEN
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00		
775.33	29.0	BOTTOM OF SCREEN
	29.5	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
756.33	48.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 29.5 FT.
1.0 IN. FROM 29.5 TO 48.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 30 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	28.49	T/PVC	3/16/2009	1314
DTB AFTER DEVELOPING:	28.49	T/PVC	3/16/2009	1354
SWE BEFORE DEVELOPING:	23.29	T/PVC	3/16/2009	1314
SWE AFTER DEVELOPING:	23.30	T/PVC	3/16/2009	1354
OTHER SWE: DURING DEVEL.	23.34	T/PVC	3/16/2009	1340
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-7s/B-7

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	3/16/09	3/16/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	28.0	2-8

Boring Location: On TPC property, east of Evans Street, about 300 feet south of Patterson Street

Personnel
Logged By - Scott Middlebrook
Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/16/09 00:00 ▽ Depth (ft bgs) 24
After Drilling: Date/Time 3/16/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ASPHALT, ROAD GRAVEL**		///		
				SAND mostly medium sand, little coarse sand, few clay, trace gravel, very dark brown (7.5YR 2.5/2), moist, dense.	SP			
1 GP	50		2	**SILTY CLAY** mostly clay, some silt, few medium sand, trace coarse sand, trace gravel, medium plasticity, strong brown (7.5YR 5/8), wet, soft. Coarse sand and gravel content increases with depth.	CL-ML			
2 GP	67		4	**SAND** mostly coarse sand, some medium sand, few gravel, little fine sand, yellowish brown (10YR 5/4) grading to pale brown (10YR 6/3), dry to moist, loose to dense.	SW			
3 GP	38		8	**SAND** mostly medium sand, some coarse sand, trace gravel, pale brown (10YR 6/3), dry, loose.				
4 GP	54		12	Change to little to some coarse sand, crushed cobble at 12.0 feet.	SP			
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-7s/B-7

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
5 GP	67		18	Same as above, no gravel at 16.0 feet.	SP			
			20					
6 GP	65		22	**SAND** mostly coarse sand, some medium sand, little fine sand, few gravel, pale brown (10YR 6/3) grading to yellowish brown (10YR 5/8), dry, dense.	SW			
				Change to pale brown (10YR 6/3), wet at 23.0 feet.				
			24 ▽	**SAND** mostly medium sand, some coarse sand, little fine sand, grayish brown (10YR 5/3), saturated, loose.				
7 GP	69		26		SW			
			28	Blind drill to 48.0 feet.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-7s/B-7

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					Groundwater sample collected at 44-48 feet.
			46					
			48	End of boring at 48.0 feet below ground surface.				
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-7S
PROJ. NO:	8070.02	DATE INSTALLED:	3/16/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
805.10	0.0 GROUND SURFACE
804.40	0.7 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
22.80	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.5 BENTONITE SEAL
781.60	23.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
5.00	
776.60	28.5 BOTTOM OF SCREEN
	29.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
757.10	48.0 HOLE BOTTOM

RISER PIPE LENGTH: 22.80

SCREEN LENGTH: 5.00

NOTES:

SLIGHT SHEEN IN BUCKET DURING DEVELOPMENT.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 29.0 FT.
1.0 IN. FROM 29.0 TO 48.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 30 MINUTES

WATER REMOVED: 25 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: BROWN

CLARITY AFTER: CLEAR

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	28.58	T/PVC	3/16/2009	1423
DTB AFTER DEVELOPING:	28.58	T/PVC	3/16/2009	1456
SWE BEFORE DEVELOPING:	23.86	T/PVC	3/16/2009	1423
SWE AFTER DEVELOPING:	23.84	T/PVC	3/16/2009	1456
OTHER SWE: DURING DEVEL.	23.92	T/PVC	3/16/2009	1451
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-8s/B-8

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	3/13/09	3/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	28.0	2-8

Boring Location: On TPC property, east of Evans Street, about 700 feet south of Patterson Street

Personnel: Logged By - Scott Middlebrook; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/13/09 00:00 ▽ Depth (ft bgs) 24
After Drilling: Date/Time 3/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**ASPHALT**				
				ROAD GRAVEL				
				TOPSOIL roots present.				
1 GP	65		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, trace coarse sand, trace gravel, medium plasticity, dark brown (7.5YR 3/2) grades to strong brown (7.5YR 5/6), wet, soft.	CL-ML			
			4					
2 GP	54		6	**SAND** mostly coarse sand, some medium sand, few fine sand, few gravel, brown (10YR 5/3) grading to pale brown (10YR 6/3), dry to moist, loose.	SW			
			8					
3 GP	63		10	**SAND** mostly medium sand, some fine sand, trace coarse sand, dark yellowish brown (10YR 4/4), moist, loose.	SP			
			12					
4 GP	63		14	**SAND** mostly coarse sand, some medium sand, few fine sand, trace gravel, dark yellowish brown (10YR 5/4), dry, loose.	SW			
				SAND mostly medium sand, little fine sand, trace coarse	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-8s/B-8

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
5 GP	67		18	sand, trace gravel, dark yellowish brown (10YR 5/4), moist, loose.				
			20	Same as above.				
6 GP	65		22		SW			
			24	▽ Change to wet at 23.5 feet. Change to saturated at 24.0 feet.				
7 GP	44		26	Crushed cobble at 26.0 feet.				
			28	Blind drill to 48.0 feet.				
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-8s/B-8

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					Groundwater sample collected at 44-48 feet.
			46					
			48	End of boring at 48.0 feet below ground surface.				
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-8S
PROJ. NO:	8070.02	DATE INSTALLED:	3/13/2009	INSTALLED BY: Scot Middlebrook	CHECKED BY: BR

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
804.60	0.0 GROUND SURFACE
804.39	0.2 TOP OF CASING
--	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
23.30	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	22.0 BENTONITE SEAL
781.09	23.5 TOP OF SCREEN
5.00	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
776.09	28.5 BOTTOM OF SCREEN
	29.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
756.59	48.0 HOLE BOTTOM

RISER PIPE LENGTH: 23.30
SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC
PIPE SCHEDULE: 40
PIPE JOINTS: THREADED O-RINGS
SOLVENT USED? NO
SCREEN TYPE: 2-INCH PVC
SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 29.0 FT.
1.0 IN. FROM 29.0 TO 48.0 FT.
SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP
TIME DEVELOPING: 25 MINUTES
WATER REMOVED: 25 GALLONS
WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID
COLOR BEFORE: LIGHT BROWN
CLARITY AFTER: CLEAR
COLOR AFTER: CLEAR
ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	28.13	T/PVC	3/16/2009	1209
DTB AFTER DEVELOPING:	27.17	T/PVC	3/16/2009	1246
SWE BEFORE DEVELOPING:	23.70	T/PVC	3/16/2009	1209
SWE AFTER DEVELOPING:	23.70	T/PVC	3/16/2009	1246
OTHER SWE: DURING DEVEL.	23.81	T/PVC	3/16/2009	1232
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO
PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO
LOCK KEY NUMBER: 3120

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-11s/B-13

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/14/09	5/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	36.0	2-8

Boring Location:	Personnel	Drilling Equipment:
In ROW on the east side of Pearl, south of intersection with Patterson Street	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 5/14/09 00:00 ▽ Depth (ft bgs) 28 After Drilling: Date/Time 5/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 GP	40		0	**TOPSOIL**				
			2	**SANDY SILTY CLAY** mostly clay, some silt, little to some fine to medium sand, few gravel, trace roots, medium plasticity, dark yellowish brown (10YR 4/4), damp, medium stiff.	CL-ML			Crushed rock in liner, very little soil recovery at 4.0 feet.
2 GP	10		4					
			6					
			8	**SAND** mostly coarse sand, few fine to medium sand, trace fine gravel, yellowish brown (10YR 5/8), damp, loose to medium dense.	SP			
3 GP	60		10					
			12	Change to moist to wet at 13.0 feet.				
4 GP	60		14	**SAND** mostly fine to coarse sand, few fine to coarse gravel, yellowish brown (10YR 5/8), damp, loose to medium dense.	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-11s/B-13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Change to moist at 16.0 feet.				
5 GP	60		18					
			20					No soil recovery due to rock in shoe, dry.
6 GP	0		22					
			24	Same as above.				
7 GP	50		26		SW			
			28	▽ Change to few to little fine gravel, few medium to coarse gravel, saturated at 28.0 feet.				
8 GP	50		30					Groundwater sample collected at 29-33 feet.
			32					
9 GP	71		34					
			36	Blind drill to 50.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT

WELL CONSTRUCTION LOG

WELL NO. MW-11s/B-13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38					
			40					
			42					
			44					
			46					Groundwater sample collected at 46-50 feet.
			48					
			50	End of boring at 50.0 feet below ground surface.				
			52					
			54					
			56					
			58					

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID: **MW-11S**
PROJ. NO: 8070.02	DATE INSTALLED: 5/14/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
810.20	0.0 GROUND SURFACE
809.64	0.6 TOP OF CASING
--	0.5 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: --
	GROUT/BACKFILL METHOD: --
28.40	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	27.0 BENTONITE SEAL
781.24	29.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WELL GRAVEL
5.00	
776.24	34.0 BOTTOM OF SCREEN
	34.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
774.24	36.0 HOLE BOTTOM

RISER PIPE LENGTH: 28.40

SCREEN LENGTH: 5.00

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 34.0 FT.
2.0 IN. FROM 34.0 TO 36.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 1 HOURS

WATER REMOVED: 3 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: YELLOWISH BROWN

CLARITY AFTER: SLIGHT TURBIDITY

COLOR AFTER: CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	33.41	T/PVC	5/14/2009	1503
DTB AFTER DEVELOPING:	33.42	T/PVC	5/14/2009	1610
SWE BEFORE DEVELOPING:	28.26	T/PVC	5/14/2009	1503
SWE AFTER DEVELOPING:	28.25	T/PVC	5/14/2009	1610
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

SOIL BORING LOG

RMT

BORING NO. B-14

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/14/09	4/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	40.0	2

Boring Location: On TPC property, about 200 feet south of MW-1, about 600 feet west of Maumee Street and 1600 feet south of Patterson Street

Personnel: Logged By - Stacy Metz; Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/14/09 00:00 ▽ Depth (ft bgs) 16
After Drilling: Date/Time 4/14/09 00:00 ▼ Depth (ft bgs) 16

SAMPLE NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	54		2	**CLAY WITH SAND** mostly clay, little fine to medium sand, plastic, dark brown (10YR 3/3), moist, soft.	CL		
			4	**SAND** mostly fine to coarse sand, few fine to coarse gravel, dark yellowish brown (10YR 3/6), moist, medium dense.			
2 GP	67		6	Lens of fine angular gravel at 6.0 feet.			
			8				
3 GP	73		10	Change to dense to very dense at 10.0 feet.			
			12	Same as above.	SW		
4 GP	65		14				
			16	▼ Change to saturated at 16.0 feet.			Groundwater sample collected at 16-20 feet.
5 GP	75		18				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature: Stacy Metz

Firm: RMT Inc.
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RMT

SOIL BORING LOG

BORING NO. B-14

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Blind drill to 40.0 feet.			
			38	Drilling change at 38.0 feet indicating likely change to clay.			Groundwater sample collected at 36-40 feet.
			40	End of boring at 40.0 feet below ground surface.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-16

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	7/23/09	7/23/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	16.0	2

Boring Location:	Personnel	Drilling Equipment:
On Birchfield property, about 400 feet south of B-43	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:		
Tecumseh	Lenawee	MI	While Drilling:	Date/Time 7/23/09 00:00	Depth (ft bgs) NA
			After Drilling:	Date/Time 7/23/09 00:00	Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	70		2	**SILTY SAND** mostly fine to medium sand, some silt, trace fine gravel, very pale brown (10YR 7/4), dry, medium dense. Change to dense at 2.0 feet.	SM		
				Change to few clay, brown (10YR 5/3) at 3.0 feet.			
2 GP	100		4	**SILTY CLAY** few to little fine sand, few fine to medium gravel, slight plasticity, brown (10YR 5/3), damp, stiff.	CL-ML		
			6				
3 GP	100		8	Same as above.			
			10				
4 GP	100		12	**SILTY CLAY** few fine to medium gravel, slight plasticity, gray (10YR 5/1), damp, stiff.	CL-ML		
			14				
			16	End of boring at 16.0 feet below ground surface.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-18

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/14/09	4/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	28.0	2

Boring Location:	Personnel	Drilling Equipment:
On west side of Ottawa Street about 200 feet north of Patterson Street	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/14/09 00:00 ▽ Depth (ft bgs) 21.5 After Drilling: Date/Time 4/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	56		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little coarse sand, few fine sand, trace fine gravel, medium plasticity, strong brown (7.5YR 5/6), moist.	CL-ML		
				SILTY SAND mostly coarse and, some medium sand, little silt, few fine sand, trace gravel, brown (7.5YR 5/2), moist, medium dense.	SM		
2 GP	75		4	**SAND** mostly coarse sand, some medium sand, few fine sand, trace gravel, brown (10YR 5/3) grading to pale brown (10YR 6/3), dry, loose.	SW		
			6				
			8	Coarse sand and gravel content decreases with depth.			
3 GP	73		10	**SAND** mostly medium sand.	SP		
			12				
				Same as above with few coarse sand at 13.0 feet.			
4 GP	67		14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-18

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
5 GP	58		18		SP		
				Same as above with strong brown (7.5YR 5/6) staining in sand at 19.0 feet.			
			20				No recovery on first attempt.
				▽			
6 GP	60		22	**SAND** mostly medium sand, some fine sand, trace coarse sand, brown (7.5YR 4/2), saturated, loose.			Groundwater sample collected from 22 to 26 feet.
			24		SP		
7 GP	83		26				
				SAND mostly fine sand, little medium to coarse sand, pale brown (10YR 6/3), saturated, dense.	SW		
			28	Blind drill to 36.0 feet.			
			30				
			32				Groundwater sample collected from 32 to 36 feet.
			34				
			36	End of boring at 36.0 feet below ground surface.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-19

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/15/09	4/15/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	34.0	2-3

Boring Location:	Personnel	Drilling Equipment:
In ROW on southwest corner of Cummings Street and Maumee Street	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/15/09 00:00 ▽ Depth (ft bgs) 5.5 After Drilling: Date/Time 4/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				TOPSOIL			
				SILTY CLAY mostly clay, some silt, little coarse sand, few fine sand, trace glass fragments, nonplastic, black (7.5YR 2.5/1), moist, medium stiff, fill.	CL-ML		
1 GP	69		2	**SANDY CLAY** mostly clay, some medium sand, little silt, few fine sand, trace gravel, low plasticity, dark brown (7.5YR 3/2) grades to brownish yellow (10YR 6/8), moist, medium stiff.	CL		
			4				
				▽ **SAND** mostly medium sand, some fine sand, trace coarse sand, brownish yellow (10YR 6/8) grading to dark yellowish brown (10YR 4/4), moist to saturated, medium dense.	SP		
2 GP	77		6				
				SILT WITH CLAY mostly silt, some clay, trace medium sand, low plasticity, yellowish brown (10YR 5/6), moist, stiff.	ML		
			8				
				SAND mostly medium sand, some fine sand, trace coarse sand, brownish yellow (10YR 6/8) grading to dark yellowish brown (10YR 4/4), saturated, medium dense.	SP		
				SILTY CLAY medium plasticity, yellowish brown (10YR 5/6), dry, very stiff.	CL-ML		
3 GP	42		10	**SAND** mostly coarse sand, some medium sand, few fine sand, trace gravel, yellowish brown (10YR 5/4), moist, dense.			
			12	Change to crushed cobble, saturated at 12.0 feet.	SW		Groundwater sample collected at 12-16 feet.
4 GP	40		14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-19

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
5 GP	100		18	Change to mostly medium sand, some coarse sand, no gravel, dark yellowish brown (10YR 4/4) at 18.5 feet.			
6 GP	45		20				
			22		SW		
			24	Change to trace gravel at 23.0 feet.			
7 GP	92		26				
			28				
			30	**SAND** mostly medium sand, some fine sand, gray (10YR 5/1), saturated, dense.	SP		Groundwater sample collected at 29-33 feet.
8 GP	100		32				
			34	**CLAY** mostly clay, some silt, trace coarse sand, high plasticity, greenish gray (GLEY1 5/1), moist, stiff.	CL		
				End of boring at 34.0 feet below ground surface.			
			36				

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-10s/B-20

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	4/15/09	4/15/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	16.0	2-8

Boring Location: On TPC property about 700 feet east of the corner of Patterson Street and Maumee Street

Personnel: Logged By - Scott Middlebrook; Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/15/09 00:00 ▽ Depth (ft bgs) 5
After Drilling: Date/Time 4/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 GP	48		0	**TOPSOIL**				
				SILTY CLAY WITH SAND some silt, little coarse sand, few medium sand, low to medium plasticity, strong brown (7.5YR 5/6), moist, very stiff.	CL-ML			
			2	**SAND** mostly medium to coarse sand, wet.	SP			
				SILTY CLAY WITH SAND some silt, little coarse sand, few medium sand, low to medium plasticity, strong brown (7.5YR 5/6), moist, very stiff.	CL-ML			
2 GP	75		4	**SAND** mostly medium to coarse sand, wet. ▽	SP			
				SANDY CLAY mostly clay, some silt, little coarse sand, trace medium sand, medium to low plasticity, strong brown (7.5YR 5/6), moist, very stiff.	CL			
			6	**SAND** mostly coarse sand, some medium sand, little fine sand, brown (7.5YR 4/3), saturated, loose.	SW			
				CLAY mostly clay, little silt, low plasticity, brown (7.5YR 5/3) grading to greenish gray (GLEY1 5/1), dry, hard.	CL			
3 GP	88		8	**SAND WITH SILT** mostly medium sand, some fine sand, little silt, greenish gray (GLEY1 5/1), saturated, dense.	SW-SC			Groundwater sample collected at 8-12 feet.
				SAND mostly medium sand, little fine sand, light greenish gray (GLEY1 7/1), saturated, medium dense.	SP			
			10					
4 GP	85		12	**SAND** mostly medium sand, little fine sand, trace to few coarse sand, light greenish gray (GLEY1 7/1), saturated, medium dense, coarse sand increasing with depth.	SW			
			14	Change to mostly medium sand, some coarse sand, little fine sand at 13.5 feet.				
			16	Blind drill to 22.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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WELL CONSTRUCTION LOG

RMT

WELL NO. MW-10s/B-20

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			18					Groundwater sample collected at 18-22 feet.
			20					
			22	End of boring at 22.0 feet below ground surface.				
			24					
			26					
			28					
			30					
			32					
			34					
			36					
			38					

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-10S
PROJ. NO:	8070.02	DATE INSTALLED:	5/12/2009 INSTALLED BY: Brent Ritchie		CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788.65	3.5	TOP OF CASING
785.15	0.0	GROUND SURFACE
	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL
	--	
		GROUT/BACKFILL METHOD
11.50	--	
	--	GROUT
		BENTONITE SEAL MATERIAL
		MEDIUM CHIPS
	6.0	BENTONITE SEAL
777.15	8.0	TOP OF SCREEN
		FILTER PACK MATERIAL
5.00		WELL GRAVEL
772.15	13.0	BOTTOM OF SCREEN
	13.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL
	--	
772.15	13.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:
BASED ON BORING LOG FOR B-20.

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 13.0 FT.
NA IN. FROM NA TO NA FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 10 MINUTES

WATER REMOVED: 15 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: DARK GRAY

CLARITY AFTER: SLIGHTLY TURBID

COLOR AFTER: CLEAR/TAN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	15.26	T/PVC	5/12/2009	1710
DTB AFTER DEVELOPING:	15.34	T/PVC	5/12/2009	1725
SWE BEFORE DEVELOPING:	9.52	T/PVC	5/12/2009	1710
SWE AFTER DEVELOPING:	9.54	T/PVC	5/12/2009	1725
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

SOIL BORING LOG

RMT

BORING NO. B-21

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/15/09	4/15/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	40.0	2

Boring Location:	Personnel	Drilling Equipment:
In ROW on northeast side of Mohawk Street between Tecumseh Tire and Logan Properties	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/15/09 00:00 ▽ Depth (ft bgs) 6 After Drilling: Date/Time 4/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
				SAND mostly fine to coarse sand, little clay, dark brown (7.5YR 3/4), moist to wet, dense.	SW		
1 GP	52		2	**SANDY CLAY** mostly clay, some fine to coarse sand, few gravel, plastic, brown (7.5YR 4/3), very soft, grading to stiff at 2.0 feet.	CL		
			4	**SAND** mostly fine to coarse sand, little coarse gravel, dark yellowish brown (10YR 4/6), dense.	SW		
2 GP	75		6	▽ **CLAY** 1-inch seam of high plasticity clay.	CL		Groundwater sample collected at 6-10 feet.
				SAND mostly fine sand, few silt, dark yellowish brown (10YR 3/6), saturated, dense.	SP		
			8	Above grades to mostly fine sand, some medium sand at 7.75 feet. Blind drill to 40.0 feet.			
			10				
			12				Groundwater sample collected at 13-17 feet.
			14				
			16				
			18				Dry from 17 to 29 feet.
			20				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature: Mary Metz

Firm: RMT Inc.
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SOIL BORING LOG

RMT

BORING NO. B-21

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			22				
			24				
			26				
			28				
			30				Dry from 30 to 34 feet.
			32				Attempted to collect water sample from 32 to 40 feet; little flow, no sample.
			34				
			36				
			38	Drilling change at 38.0 feet indicating likely change to clay.			
			40	End of boring at 40.0 feet below ground surface.			
			42				
			44				
			46				
			48				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-22

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/14/09	4/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	44.0	2

Boring Location:	Personnel	Drilling Equipment:
On TPC property, south side of main building, about 400 feet east of Evans Street	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/14/09 00:00 ▽ Depth (ft bgs) 19 After Drilling: Date/Time 4/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
1 GP	58		0	**GRAVEL FILL** angular fine to coarse gravel with fine to coarse sand, light brown gray.			
			2	**SANDY CLAY** mostly clay, some fine to coarse sand, plastic, brown (7.5YR 4/4), moist, very stiff.	CL		
				Gravel layer at 2.5 feet.			
			4	**SAND WITH GRAVEL** mostly fine to coarse sand, little fine gravel, little coarse sand, strong brown (7.5YR 4/6), moist, medium dense.			
2 GP	79			Change to fine to coarse gravel at 4.25 feet.			
			6	Above grades to few coarse sand, yellowish brown (10YR 5/4) at 6.5 feet.			
			8	Change to few fine to coarse gravel at 8.0 feet.			
3 GP	73		10				
					SW		
			12	Change to loose at 12.0 feet.			
4 GP	75		14				
			16	Gravel layer at 15.75 feet.			
5 GP	75		18				Groundwater sample collected at 18-23 feet.
				▽ Saturated at 19.0 feet.			
			20	Blind drill to 44.0 feet.			
			22				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-22

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			24				
			26				
			28				
			30				
			32				
			34				
			36				
			38				
			40				Groundwater sample collected at 40-44 feet.
			42				
				Drilling change at 43.0 feet indicating likely change to clay.			
			44	End of boring at 44.0 feet below ground surface.			
			46				
			48				
			50				
			52				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-23

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/13/09	4/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	39.0	2

Boring Location:	Personnel	Drilling Equipment:
In ROW on north side of Patterson Street about 400 feet west of Maumee Street	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/13/09 00:00 ▽ Depth (ft bgs) 13 After Drilling: Date/Time 4/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	33		2	**SANDY CLAY** mostly clay, some fine to coarse sand, few fine gravel, low to medium plasticity, dark yellowish brown (10YR 4/6), dry to moist, very stiff.	CL		
2 GP	50		4	**CLAY WITH SAND** mostly clay, few to little fine to coarse sand, high plasticity, dark olive brown (2.5Y 3/3), moist, soft.	CL		
			6	**SAND** mostly fine to coarse sand, few to trace gravel, dark yellowish brown (10YR 4/4), dry, very dense.			
3 GP	65		8				
			10	Change to moist, dense at 10.0 feet.	SW		
			12				
4 GP	69		14	▽ Change to saturated, medium dense at 13.0 feet.			Groundwater sample collected at 14-18 feet. Groundwater sample collected in adjacent utility corridor at 14-16 feet.
			16				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-23

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
5 GP	75		18				
			20	Changes to loose at 20.5 feet.	SW		
6 GP	60		22				
			24				
7 GP	53		26	**SAND** mostly medium sand, little fine sand, trace coarse sand, gray (10YR 5/1), saturated, medium dense, cobble at 25.0 feet.	SP		Hard pounding at 27.0 feet.
			28				
8 GP	92		30				Groundwater sample collected at 30-34 feet.
			32	**SAND** mostly coarse sand, little medium sand, trace fine sand, dark gray (10YR 4/1), saturated, loose.	SP		
			34	Medium sand content increases with depth.			
9 GP	100		36	**CLAY** mostly clay, some silt, trace coarse sand, high plasticity, greenish gray (GLEY1 5/1), moist, very stiff.	CL		
			38				
				End of boring at 39.0 feet below ground surface.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-24

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/13/09	4/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	37.5	2-3

Boring Location:	Personnel	Drilling Equipment:
In ROW east of Maumee Street across from MW-9s about 780 feet south of Mohawk Street	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/13/09 00:00 ▽ Depth (ft bgs) 6 After Drilling: Date/Time 4/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**ASPHALT AND SUBBASE**			
				SAND	SW		
1 GP	100		2	**SANDY CLAY** mostly clay, little fine sand, plastic, very dark grayish brown (10YR 3/4), moist, stiff to very stiff, orange mottling.			
				4-inch layer of fine sand at 3.25 feet.			
			4	Change to very hard at 4.0 feet.	CL		
				▽			Groundwater sample collected in adjacent utility corridor at 5-7 feet.
2 GP	100		6	**SAND** mostly fine to coarse sand, trace fine to coarse subrounded gravel, dark yellowish brown (10YR 4/4), saturated, dense.			Groundwater sample collected at 6-10 feet.
			8				
			10	Change to medium dense at 10.0 feet.	SW		
3 GP	50		12				
			14				
			16	Change to dark gray (10YR 4/1), loose to medium dense at 15.5 feet.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

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SOIL BORING LOG

RMT

BORING NO. B-24

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
4 GP	83		18				
			20	Same as above.			Logged based on cutting, tube could not be removed from tooling.
5 GP	0		22				
			24				
				Change to mostly fine to medium sand, trace coarse sand, no gravel at 25.0 feet.	SW		
6 GP	80		26				
			28				Groundwater sample collected at 28-32 feet.
			30	Change to fine to coarse well graded sand with trace gravel at 30.0 feet.			
7 GP	100		32				
				CLAY WITH SAND mostly clay, few fine to coarse sand, slight plasticity, dark gray (10YR 4/1), moist, hard.			
			34				
				Change to saturated at 35.0 feet.	CL		
8 GP	100		36				
				End of boring at 37.5 feet below ground surface.			
			38				

SOIL BORING LOG

RMT

BORING NO. B-26

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/14/09	4/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	33.0	2

Boring Location:	Personnel	Drilling Equipment:
In ROW on south side of Cummings Street between Ottawa Street and Maumee Street	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/14/09 00:00 ▽ Depth (ft bgs) 15 After Drilling: Date/Time 4/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	44		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, few fine sand, medium plasticity, dark yellowish brown (10YR 4/6), moist, stiff.	CL		
				COBBLE crushed.			
			4	**CLAYEY SAND** mostly coarse sand, some clay, little medium sand, strong brown (7.5YR 4/6), moist, dense.	SP-SC		
2 GP	67		6	**SAND** mostly coarse sand, some medium sand, little fine sand, trace silt, trace gravel, brown (10YR 4/3), dry, medium dense.	SW		
3 GP	67		10				
			12	**SAND** mostly medium sand, trace coarse sand, trace fine sand, pale brown (10YR 6/3), dry, loose.	SP		
4 GP	65		14	**SAND** mostly coarse sand, some medium sand, little fine sand, trace silt, trace gravel, brown (10YR 5/3), dry to wet, medium dense.	SW		
				▽ Change to mostly medium sand, little fine sand, trace coarse sand, no gravel, brown (10YR 5/3), saturated at 15.0 feet.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-26

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
5 GP	75		18		SW		Groundwater sample collected at 16-20 feet.
			20	Blind drill to 33.0 feet.			
			22				
			24				
			26				
			28				
			30				Groundwater sample collected at 29-33 feet.
			32				
				End of boring at 33.0 feet below ground surface.			
			34				
			36				

SOIL BORING LOG

RMT

BORING NO. B-29

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/13/09	4/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	46.0	2

Boring Location: In ROW on westside of Maumee Street about 1400 feet south of Patterson Street

Personnel
Logged By - Stacy Metz
Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/13/09 00:00 ▽ Depth (ft bgs) 8
After Drilling: Date/Time 4/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	75		2	**SANDY CLAY** mostly clay, some fine to medium sand, few gravel, slight plasticity, very dark grayish brown (10YR 3/2), moist, stiff. Change to very dark brown (10YR 2/2).	CL		
			4	**SAND WITH CLAY** mostly fine to medium sand, little clay, yellowish brown (10YR 5/4), moist, medium dense.	SW-SC		
2 GP	83		6	**SANDY CLAY** mostly fine to medium sand, little clay, high plasticity, brown (10YR 5/3), wet, very stiff to stiff.	SW-SC		
				SAND fine to coarse sand, brown (10YR 5/3), saturated, dense.	SW		
				CLAY WITH SAND mostly clay, little fine to medium sand, slight plasticity, dark grayish brown (10YR 4/2), moist, very stiff.	CL		
			8 ▽	**SAND** fine to coarse sand, trace to few coarse gravel, dark yellowish brown (10YR 4/6), saturated, dense.	SW		Groundwater sample collected at 8-12 feet.
			10				
			12	Blind drill to 46.0 feet.			
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-29

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Blind drill to 46.0 feet.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-29

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			38				Groundwater sample collected at 38-42 feet.
			40				
			42				Dry from 42 to 46 feet.
			44				
			46	Drilling change at 46.0 feet indicating likely change to clay. End of boring at 46.0 feet below ground surface.			
			48				
			50				
			52				
			54				
			56				
			58				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-30

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/14/09	4/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	44.0	2

Boring Location:	Personnel	Drilling Equipment:
East of Maumee Street across from B-4, about 380 feet south of Mohawk Street	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/14/09 00:00 ▽ Depth (ft bgs) 6.5 After Drilling: Date/Time 4/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**ASPHALT AND SUBBASE**			
1 GP	79		2	**CLAY** mostly clay, few fine to medium sand, plastic, olive brown (2.5Y 4/3), moist, hard.	CL		
			4	**SAND** mostly fine sand, few clay, dark yellowish brown (10YR 4/6), wet, dense.	SP		
				GRAVEL medium gravel to cobbles, white (10YR 8/1), dry, hard.	GW		
2 GP	75		6	**SAND WITH GRAVEL** mostly fine to coarse sand, little gravel, dark yellowish brown (10YR 4/4), wet to saturated, dense. Change to mostly fine to medium sand, little coarse sand. ▽	SW		Groundwater sample collected at 6-11 feet.
			8	Blind drill to 44.0 feet.			
			10				
			12				
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-30

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Blind drill to 44.0 feet.			
			18				
			20				
			22				
			24				
			26				
			28				
			30				Groundwater sample collected at 30-34 feet.
			32				
			34				
			36				Dry from 36-44 feet.

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-30

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			38				
			40				
			42				
			44	End of boring at 44.0 feet below ground surface.			
			46				
			48				
			50				
			52				
			54				
			56				
			58				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-31

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/13/09	4/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	12.0	2

Boring Location: East of Maumee Street, near Patterson Street

Personnel
Logged By - Scott Middlebrook
Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/13/09 00:00 ▽ Depth (ft bgs) 7.5
After Drilling: Date/Time 4/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	60		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little coarse sand, few medium sand, nonplastic, yellowish brown (10YR 5/8), moist, stiff.	CL-ML		
				Sand content decreases with depth. Change to very stiff, dry at 3.5 feet.			
2 GP	100		4	**SILTY CLAY** mostly clay, some silt, nonplastic, brown (7.5Y 5/3), dry, very stiff.	CL-ML		
			6	▽			
			8	**SAND** mostly medium sand, few fine sand, grayish brown (10YR 5/2), wet to saturated, loose to dense.	SP		
3 GP	88			**SILTY CLAY WITH SAND** mostly clay, some silt, little medium sand, few fine sand, high plasticity, dark grayish brown (10YR 4/2), moist, medium dense.	CL-ML		
			10	**SAND** mostly coarse sand, some medium sand, few fine sand, dark grayish brown (10YR 4/2), saturated, loose.	SW		Groundwater sample collected at 10-14 feet.
			12	Blind drill to 29.0 feet.			
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-31

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			18				
			20				
			22				
			24				
			26				Groundwater sample collected at 25-29 feet.
			28				
				End of boring at 29.0 feet below ground surface.			
			30				
			32				
			34				
			36				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-32

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/14/09	4/14/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
In ROW on northwest corner of Patterson Street and Maumee Street	Logged By - Scott Middlebrook Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/14/09 00:00 ▽ Depth (ft bgs) 8 After Drilling: Date/Time 4/14/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	52		2	**SILTY CLAY WITH SAND** mostly clay, some silt, little coarse sand, few medium sand, low to medium plasticity, dark gray (7.5YR 4/1) grading to very pale brown (10YR 7/4), moist, medium dense.	CL-ML		
			4	Medium sand content increases with depth.			
				SAND mostly medium sand, trace fine sand, yellowish brown (10YR 5/4), moist, loose.	SP		
2 GP	67		6	**SILTY CLAY** mostly clay, some silt, trace medium sand, high plasticity, dark yellowish brown (10YR 4/4), moist, very stiff.	CL-ML		
				SAND mostly coarse sand, some medium sand, little fine sand, trace gravel, pale brown (10YR 6/3), dry to moist, medium dense.			
			8 ▽	Change to saturated at 8.0 feet. Gravel content decreases with depth.	SW		Groundwater sample collected in adjacent utility corridor at 8.5-10.5 feet.
3 GP	71		10				Groundwater sample collected at 10-14 feet.
			12	Blind drill to 29.0 feet.			
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-32

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			18				
			20				
			22				
			24				
			26				Groundwater sample collected at 25-29 feet.
			28				
				End of boring at 29.0 feet below ground surface.			
			30				
			32				
			34				
			36				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-33

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/15/09	4/15/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	27.0	2

Boring Location: In ROW on westside of Maummee Street, about 300 feet north of Russell Road

Personnel
Logged By - Stacy Metz
Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/15/09 00:00 ▽ Depth (ft bgs) 4
After Drilling: Date/Time 4/15/09 00:00 ▼ Depth (ft bgs) 1

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL** wet to saturated.			
1 GP	63		2	**SANDY CLAY** mostly clay, some fine to medium sand, high plasticity, dark brown (10YR 3/3), wet, very soft.	CL		
			4	▽ **SAND** mostly fine to coarse sand, brown (10YR 4/3), saturated, loose to medium dense.	SW		Water first observed at 4.0 feet, water rose to 1 foot within minutes. Groundwater sample collected at 4-8 feet.
2 GP	77		6	**CLAY** mostly clay, little fine to coarse sand, slight plasticity, grayish brown (10YR 5/2), moist, hard, interbedded with sand.	CL		
				GRAVELLY SAND mostly fine to coarse sand, some fine to coarse gravel, brown (10YR 4/3), saturated, loose.	SW		
			8	Blind drill to 27.0 feet.			
			10				
			12				
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

SOIL BORING LOG

RMT

BORING NO. B-33

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			18				Groundwater sample collected at 17-21 feet.
			20				
			22				Dry from 21 to 27 feet.
			24				
			26				
				Drilling change at 27.0 feet indicating likely change to clay.			
				End of boring at 27.0 feet below ground surface.			
			28				
			30				
			32				
			34				
			36				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-34

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/20/09	4/20/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	45.0	2

Boring Location:	Personnel	Drilling Equipment:
In ROW on north side of Kilbuck Street between Oneida Street and Maumee Street	Logged By - Scott Middlebrook Driller - Steve Bischoff	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/20/09 00:00 ▽ Depth (ft bgs) 12.5 After Drilling: Date/Time 4/20/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	44		2	**SILTY CLAY** mostly clay, some silt, few coarse sand, medium plasticity, yellowish brown (10YR 5/6), moist, stiff to very stiff.	CL-ML		
2 GP	54		4	Change to some coarse sand, little medium sand, non-plastic, strong brown (7.5 YR 5/8), soft.			
			6	**SAND WITH CLAY** mostly coarse sand, some medium sand, little clay, trace gravel, trace silt, brown (7.5YR 4/2), moist, medium dense.	SP-SC		
3 GP	65		8	**SAND** mostly medium sand, some coarse sand, little fine sand, trace gravel, pale brown (10YR 6/3), dry, medium dense.	SW		
4 GP			10				
			12	▽ Change to trace silt, saturated at 12.0 feet. Coarse sand content increases with depth.			
			14				Groundwater sample collected at 14-18 feet.
			16	Blind drill to 45.0 feet.			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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RMT

SOIL BORING LOG

BORING NO. B-34

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			18	Blind drill to 45.0 feet.			
			20				
			22				
			24				
			26				
			28				
			30				
			32				
			34				
			36				
			38				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT

SOIL BORING LOG

BORING NO. B-34

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			40				Groundwater sample collected at 41-45 feet.
			42				
			44				
				End of boring at 45.0 feet below ground surface.			
			46				
			48				
			50				
			52				
			54				
			56				
			58				
			60				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-35 (2010)

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/17/10	9/17/10	8070.13

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	16.0	2

Boring Location:	Personnel	Drilling Equipment:
In ROW on northeast corner of Kilbuck Street and Maumee Street	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/17/10 00:00 ▽ Depth (ft bgs) 6 After Drilling: Date/Time 9/17/10 00:00 ▼ Depth (ft bgs) 13

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 HA	100		2	**WELL GRADED SAND** mostly fine to coarse sand, few gravel, dark yellowish brown (10YR 4/6), no odor, moist, medium dense.	SW		
			4	**LEAN CLAY WITH SAND** mostly clay, little sand, few gravel, slightly plastic, dark yellowish brown (10YR 4/4), no odor, moist, stiff.	CL		
				WELL GRADED SAND mostly fine to coarse sand, few gravel, dark yellowish brown (10YR 4/6), no odor, moist, medium dense.	SW		
2 GP	100		6 ▽	Change to saturated at 6 feet below ground surface.			
			8	**LEAN CLAY WITH SAND** mostly clay, few to little sand, very plastic, dark grayish brown (10YR 4/2), no odor, moist to wet, medium stiff to stiff.	CL		
				SILTY SAND mostly fine sand, little silt, dark yellowish brown (10YR 4/4), no odor, moist, dense.	SM		
3 GP	70		10	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some fine to coarse gravel, few silt, dark yellowish brown (10YR 3/4), no odor, dry to moist, medium dense to dense.			
				Change to little gravel at 11.5 feet below ground surface.			
			12	Change to moist to wet at 12 feet below ground surface.			Temporary well screened from 11-16 feet, groundwater sample collected at 14:21
4 GP	75		13 ▼	Change to saturated at 13 feet below ground surface.	SW		
			14				
			16	End of boring at 16 feet below ground surface.			

SOIL BORING WELL CONSTRUCTION LOG 8070.12 2010.GPJ RMT_CORP.GDT 8070.13 1/12/11

Signature: Stacy Metz

Checked By: John Bacon

Firm: RMT, Inc.
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Fax 734-971-9022

SOIL BORING LOG

RMT

BORING NO. B-35

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	4/20/09	4/20/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	34.0	2

Boring Location: In ROW on northeast corner of Kilbuck Street and Maumee Street

Personnel
Logged By - Stacy Metz
Driller - Craig Tanicala

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/20/09 00:00 ▽ Depth (ft bgs) 5
After Drilling: Date/Time 4/20/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
				SAND mostly fine sand, little medium sand, trace coarse sand, dark yellowish brown (10YR 4/6), moist to wet, loose.	SP		
1 GP	42		2	**SANDY CLAY** mostly clay, some fine to coarse sand, slight plasticity, very dark brown (7.5YR 2.5/3), moist to wet, stiff.	CL		
			4	**SAND** mostly fine sand, little medium sand, trace coarse sand, dark yellowish brown (10YR 4/6), moist to wet, loose.	SP		
				SANDY CLAY mostly clay, some fine to coarse sand, plastic, ▽ yellowish brown (10YR 5/4), moist to wet, stiff.	CL		
2 GP	83		6	**SAND** mostly fine sand, little medium sand, trace coarse sand, dark yellowish brown (10YR 4/6), saturated, loose. 3-inch thick clay layer at 6.0 feet.	SP		Groundwater sample collected at 5-9 feet. DUP-07
				CLAY mostly clay, plastic, dark gray (10YR 4/1), wet, medium stiff, interbedded with sand.	CL		
			8	Blind drill to 34.0 feet.			
			10				
			12				
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-35

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			18				
			20				
			22				
			24				
			26				
			28				
			30				Groundwater sample collected at 30-34 feet.
			32				
			34	Drilling change at 34.0 feet indicating likely change to clay. End of boring at 34.0 feet below ground surface.			
			36				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-36

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/13/09	5/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	25.0	2-3

Boring Location: In ROW on northwest corner of Kilbuck Street and Wyandotte Street

Personnel
Logged By - Stacy Metz
Driller - Joe Fotjik and Steve Bischoff

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 5/13/09 00:00 ▽ Depth (ft bgs) 12
After Drilling: Date/Time 5/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	67		2	**SANDY CLAY** mostly clay, some fine to coarse sand, few fine gravel, low plasticity, dark yellowish brown (10YR 4/4), dry to moist, very stiff.	CL		
				SAND mostly fine to coarse sand, few fine gravel, dark yellowish brown (10YR 4/4), moist, dense.	SW		
2 GP	88		4	**SANDY CLAY** mostly clay, some fine to coarse sand, non-plastic to low plasticity, gray (10YR 5/1), dry, hard, orange mottling.	CL		
			6	**SAND** mostly fine to coarse sand, few fine gravel, dark yellowish brown (10YR 4/4), moist to wet, dense.	SW		
3 GP	92		8	**CLAY** mostly clay, few silt, trace fine sand, plastic, very dark gray (10YR 3/1), moist to wet, very stiff. Same as above. Change to little fine sand at 10.0 feet.	CL		
4 GP	100		12 ▽	**SAND** mostly medium sand, little fine sand, little coarse sand, dark gray (10YR 3/1), wet, loose to medium dense. Change to saturated at 12.0 feet.	SW		Groundwater sample collected at 12-16 feet.
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature: Stacy Metz

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SOIL BORING LOG

RMT

BORING NO. B-36

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Change to mostly coarse sand, some medium sand at 16.0 feet.	SW		Groundwater sample collected at 16-20 feet.
5 GP	83		18	**GRAVEL WITH SAND** mostly fine to coarse sub-rounded gravel, little coarse sand, few fine to medium sand, dark gray (10YR 3/1), saturated, dense.	GW		
				SAND mostly medium sand, little fine sand, little coarse sand, dark gray (10YR 3/1), saturated, loose to medium dense.	SW		
			20				
6 GP	100		22	**CLAY** mostly clay, little silt, trace coarse sand, high plasticity, dark gray (10YR 3/1), wet, medium stiff to stiff.	CL		
			24				
				End of boring at 25.0 feet below ground surface.			
			26				
			28				
			30				
			32				
			34				
			36				

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-12s/B-37

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/12/09	5/12/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	43.0	2-8

Boring Location: In ROW on southeast corner of Potawatamee Street and Maumee Street

Personnel
Logged By - Brent Ritchie
Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 5/12/09 00:00 ▽ Depth (ft bgs) 6
After Drilling: Date/Time 5/12/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	42		2	**SILTY SAND WITH CLAY** mostly fine to coarse sand, little to some silt, few to little clay, few fine to medium gravel, yellowish brown (10YR 5/4), damp, medium dense.	SM			
			4	Change to little to some clay at 4.0 feet.				
2 GP	71		6 ▽	**SAND** mostly fine to coarse sand, few silt, light yellowish brown (10YR 6/4), moist, medium dense. Change to saturated at 6.0 feet.	SW			
			8	**SILT WITH CLAY** mostly silt, few to little clay, few fine sand, light yellowish brown (10YR 6/4), medium stiff to stiff.	ML			
				SAND mostly fine to coarse sand, few silt, light yellowish brown (10YR 6/4), moist, medium dense.	SW			
3 GP	71		10	**SANDY GRAVEL** mostly fine to coarse gravel, some fine to coarse sand, trace silt, trace clay, yellowish brown (10YR 5/4), moist, dense.	GW			
			12	Change to saturated at 12.5 feet.				
4 GP	81		14	Above grades to sand with gravel.				
				SAND WITH GRAVEL mostly fine to coarse sand, little fine to medium gravel, trace silt, brown (10YR 5/3), saturated, loose to medium dense.	SW			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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WELL CONSTRUCTION LOG

RMT

WELL NO. MW-12s/B-37

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
5 GP	100		18	Same as above.				
			20	Same as above.	SW			
6 GP	100		22					
			24	**GRAVEL** mostly fine to medium gravel, little to some coarse gravel, trace fine to coarse sand, brown (10YR 5/3), saturated, loose to medium dense.				
7 GP	100		26					
			28	Same as above.				
8 GP	100		30	Change to yellowish brown (10YR 5/8) at 29.0 feet.	GW			
			32	Change to gray (10YR 5/1) at 32.0 feet.				
9 MC	80		34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-12s/B-37

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			38	Blind drill to 43.0 feet.				Groundwater sample collected at 38.5-42.5 feet.
			40					
			42	Drilling change at 41.0 feet indicating likely change to clay.				
			44	End of boring at 43.0 feet below ground surface.				
			46					
			48					
			50					
			52					
			54					
			56					
			58					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-12S
PROJ. NO:	8070.02	DATE INSTALLED:	5/12/2009 INSTALLED BY: Brent Ritchie		CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
791.20	0.0 GROUND SURFACE
790.90	0.3 TOP OF CASING
--	0.5 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: --
	GROUT/BACKFILL METHOD: --
11.70	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	10.0 BENTONITE SEAL
779.20	12.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WELL GRAVEL
5.00	
774.20	17.0 BOTTOM OF SCREEN
	17.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
748.70	42.5 HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:

8.0	IN. FROM	0.0	TO	17.0	FT.
2.0	IN. FROM	17.0	TO	37.0	FT.
1.0	IN. FROM	37.0	TO	42.5	FT.
NA	IN. FROM	NA	TO	NA	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 10 MINUTES

WATER REMOVED: 12.5 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: YELLOWISH BROWN

CLARITY AFTER: SLIGHTLY TURBID

COLOR AFTER: CLEAN/TAN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	16.81	T/PVC	5/12/2009	1518
DTB AFTER DEVELOPING:	16.81	T/PVC	5/12/2009	1538
SWE BEFORE DEVELOPING:	12.39	T/PVC	5/12/2009	1518
SWE AFTER DEVELOPING:	12.39	T/PVC	5/12/2009	1538
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

SOIL BORING LOG

RMT

BORING NO. B-38

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/13/09	5/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	42.0	2-3

Boring Location:	Personnel	Drilling Equipment:
In ROW on northeast corner of Potawatamee Street and Wyandotte Street	Logged By - Stacy Metz Driller - Joe Fotjik and Steve Bischoff	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 5/13/09 00:00 ▽ Depth (ft bgs) 16 After Drilling: Date/Time 5/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	63		2	**SANDY CLAY WITH GRAVEL** mostly clay, some fine to coarse sand, little gravel, slight plasticity, dark yellowish brown (10YR 4/6), moist, stiff.	CL		
			4	**SAND** mostly fine to coarse sand, dark yellowish brown (10YR 4/6), dry to moist, very dense.	SW		
				SANDY CLAY mostly clay, some fine to coarse sand, slight plasticity, light gray (10YR 7/2), dry to moist, stiff, orange mottling.	CL		
2 GP	83		6	**SAND** mostly fine sand, yellowish brown (10YR 5/6), wet, dense.	SP		
				SAND mostly fine to coarse sand, dark yellowish brown (10YR 4/6), wet, very dense.	SW		
				SILTY CLAY mostly clay, some silt, slight plasticity, dark yellowish brown (10YR 4/6), moist, very stiff.	CL-ML		
			8	**SILTY CLAY** mostly clay, some silt, plastic, dark gray (10YR 4/1), moist, very stiff.	CL-ML		
3 GP	75		10				
				SAND mostly fine sand, little medium sand, brown (10YR 5/3), moist, dense to very dense.	SP		
			12				
4 GP	71		14				Groundwater sample collected at 15-19 feet.
				▽			

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature: Stacy Metz

Firm: RMT Inc.
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SOIL BORING LOG

RMT

BORING NO. B-38

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				SAND mostly fine to coarse sand, dark brown (10YR 4/3), saturated, dense.	SW		
5 GP	96		18	**SILTY CLAY** mostly clay, some silt, plastic to high plasticity, dark gray (10YR 4/1), moist to wet, stiff.	CL-ML		
6 GP	77		20 22 24	**GRAVEL WITH SAND** mostly fine to coarse sub-rounded gravel, some fine to coarse sand, very dark gray (10YR 3/1), saturated, dense.	GW		
7 GP	67		26	**SAND** mostly fine sand, some medium sand, dark gray (10YR 4/1), saturated, dense.	SP		
8 GP	96		28 30				
9 GP	0		32 34 36	**SAND** mostly fine to coarse sand, few gravel, very dark gray (10YR 3/1), saturated, dense. No recovery from 32.0 to 38.0 feet. Sand in shoe is same as above.	SW		Groundwater sample collected at 36-40 feet.

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-38

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
10 GP	100		38	Same as above. Change to some gravel at 38.0 feet.	SW		
			40	**CLAY** mostly clay, few silt, trace sand, plastic to high plasticity, dark gray (10YR 4/1), wet, stiff to very stiff.	CL		
				SAND mostly fine to coarse sand, few gravel, very dark gray (10YR 3/1), saturated, dense.	SW		
			42	End of boring at 42.0 feet below ground surface.			
			44				
			46				
			48				
			50				
			52				
			54				
			56				
			58				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-39

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/13/09	5/13/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	24.0	2

Boring Location:	Personnel	Drilling Equipment:
East corner of Potawatamee Street and Division Street, 8 feet north of south edge of Potawatamee Street, 2 feet east of edge	Logged By - Stacy Metz Driller - Joe Fotjik and Steve Bischoff	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 5/13/09 00:00 ▽ Depth (ft bgs) 16 After Drilling: Date/Time 5/13/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	44		2	**SANDY CLAY WITH GRAVEL** mostly clay, some sand, few gravel, plastic, dark yellowish brown (10YR 4/4), moist, stiff.	SC-SM		
			4	**SAND WITH GRAVEL** mostly fine to coarse sand, few fine to coarse gravel, dark yellowish brown (10YR 3/6), moist, medium dense.	SW		
2 GP	81			**SANDY CLAY** mostly clay, little sand, trace gravel, plastic, yellowish brown (10YR 5/4), moist, stiff to very stiff.	CL		
			6	**SAND WITH GRAVEL** mostly fine to coarse sand, few fine to coarse gravel, dark yellowish brown (10YR 3/6), wet, medium dense.	SW		
				SANDY CLAY mostly clay, little sand, trace gravel, plastic, yellowish brown (10YR 5/4), moist, stiff to very stiff.	CL		
			8	**CLAY** mostly clay, little silt, plastic, dark grayish brown (10YR 4/2), moist, medium stiff to stiff.	CL		
3 GP	69		10	**SAND** mostly fine sand, very dark grayish brown (10YR 3/2), moist, medium dense.	SP		
			12				
4 GP	75		14	Change to yellowish brown (10YR 5/4) at 14.0 feet.			
				Change to mostly fine to medium sand at 15.0 feet.			Groundwater sample collected at 15-19 feet.
			▽				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
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SOIL BORING LOG

RMT

BORING NO. B-39

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
5 GP	88		18	**SAND** fine to coarse sand, dark yellowish brown (10YR 3/4), saturated, dense.	SW		
			20	**SILTY CLAY** mostly clay, some silt, plastic, dark gray (10YR 4/1), wet to saturated, stiff. Change to medium stiff at 20.0 feet.	CL-ML		
6 GP	42		22				
			24	End of boring at 24.0 feet below ground surface.			
			26				
			28				
			30				
			32				
			34				
			36				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

SOIL BORING LOG

RMT

BORING NO. B-40

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	5/15/09	5/15/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	46.0	2

Boring Location:	Personnel	Drilling Equipment:
Two feet west of edge of Wyandotte Street, 57 feet south of edge of Chicago Blvd	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 5/15/09 00:00 ▽ Depth (ft bgs) 5.5 After Drilling: Date/Time 5/15/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	50		2	**SILTY CLAYEY SAND** mostly fine to coarse sand, little to some silt and clay, few fine to coarse gravel, dark yellowish brown (10YR 3/4), moist, medium dense.	SC-SM		
			4	**GRAVELLY SAND** mostly fine to coarse sand, some fine to medium gravel, few silt, few clay, yellowish brown (10YR 5/6), moist, loose to medium dense.	SW		
2 GP	75		6	▽ Change to saturated at 5.5 feet. **CLAYEY SILT** mostly silt, some clay, trace fine sand, plastic, yellowish brown (10YR 5/4), damp to moist, stiff. Change to gray (10YR 5/1) at 7.0 feet.	ML		
			8	**SILTY CLAY** mostly clay, some silt, high plasticity, gray (10YR 5/1), moist, soft.	CL-ML		
3 GP	75		10				
			12	**SAND** mostly fine sand, few silt, light yellowish brown (10YR 6/4), damp to moist, medium dense.	SP		
4 GP	60		14	**SAND** mostly fine to coarse sand, trace silt, trace clay, pale brown (10YR 6/3), moist, medium dense to dense. Change to brownish yellow (10YR 6/8) at 13.0 feet. Change to pale brown (10YR 6/3) at 13.5 feet.	SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-40

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
5 GP	40		18	**GRAVELLY SAND** mostly medium to coarse sand, some fine to medium gravel, little fine sand, trace silt and clay, yellowish brown (10YR 5/4), saturated, loose. Change to no clay at 17.0 feet.	SW		Groundwater sample collected at 16-20 feet.
			20	Blind drill to 46.0 feet.			
			22				
			24				
			26				
			28				
			30				
			32				
			34				
			36				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

SOIL BORING LOG

RMT

BORING NO. B-40

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			38				
			40				
			42				Groundwater sample collected at 42- 46 feet.
			44				
			46	Drilling change at 46.0 feet indicating likely change to clay. End of boring at 46.0 feet below ground surface.			
			48				
			50				
			52				
			54				
			56				
			58				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/28/09

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-13s/B-41

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - Phase II Investigation	5/12/09	5/12/09	8070.02

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	20.0	2-8

Boring Location: On east side of Division Street, south of Chicago Blvd, in front of Pine Terrace Apartments

Personnel: Logged By - Brent Ritchie; Driller - Joe Fotjik

Drilling Equipment: Geoprobe

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 5/12/09 00:00 ▽ Depth (ft bgs) 5.5
After Drilling: Date/Time 5/12/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SAND WITH SILT AND CLAY** mostly fine to coarse sand, little silt, little clay, trace to few fine to medium gravel, dark yellowish brown (10YR 4/4), damp, medium dense.	SW-SM			
			4	**SILT WITH CLAY** mostly silt, little clay, trace fine sand, light yellowish brown (10YR 6/4), dry to damp, medium stiff.	ML			
2 GP	80		6	**SAND** mostly fine to coarse sand, trace to few silt, trace to few fine to medium gravel, brown (10YR 5/3), damp to moist, ▽ medium dense.	SW			
				SILTY CLAY trace fine sand, medium plasticity, brownish yellow (10YR 6/6), saturated, medium stiff. Change to moist at 6.0 feet. Change to gray (10YR 5/1) at 6.5 feet.	CL-ML			
3 GP	80		8	Change to mostly silt, wet at 8.5 feet.				
				SANDY SILT some fine sand, yellow (10YR 7/6), moist to wet, medium stiff.	ML			
			10	**SAND** mostly fine to coarse sand, few silt, light yellowish brown (10YR 6/4), moist to wet, medium dense.				
			12		SW			
4 GP	80		14	Above grades to mostly medium to coarse sand, trace fine gravel, grayish brown (10YR 5/2), saturated at 14.0 feet.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

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WELL CONSTRUCTION LOG

RMT

WELL NO. MW-13s/B-41

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Change to mostly fine to medium sand at 16.0 feet.	SW			
5 GP	100		18	**SILTY CLAY** plastic to high plasticity, gray (10YR 5/1), saturated, soft. Change to moist to wet, medium stiff at 19.0 feet.	CL-ML			
			20	End of boring at 20.0 feet below ground surface.				
			22					
			24					
			26					
			28					
			30					
			32					
			34					
			36					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-13S
PROJ. NO:	8070.02	DATE INSTALLED:	5/12/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
787.70	0.0 GROUND SURFACE
787.35	0.4 TOP OF CASING
--	0.5 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: --
	GROUT/BACKFILL METHOD: --
12.60	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	11.0 BENTONITE SEAL
774.75	13.0 TOP OF SCREEN
	FILTER PACK MATERIAL: WELL GRAVEL
5.00	
769.75	18.0 BOTTOM OF SCREEN
	18.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
767.75	20.0 HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 18.0 FT.

2.0 IN. FROM 18.0 TO 20.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.

NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 5 MINUTES

WATER REMOVED: 7.5 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: DARK GRAY

CLARITY AFTER: SLIGHTLY TURBID

COLOR AFTER: MOSLTY CLEAR

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	17.74	T/PVC	5/12/2009	1005
DTB AFTER DEVELOPING:	17.74	T/PVC	5/12/2009	1025
SWE BEFORE DEVELOPING:	14.74	T/PVC	5/12/2009	1005
SWE AFTER DEVELOPING:	14.77	T/PVC	5/12/2009	1025
OTHER SWE:	NA	T/PVC	NA	NA
OTHER SWE:	NA	T/PVC	NA	NA

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-16s/B-42

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	7/23/09	7/23/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	36.0	2-8

Boring Location:	Personnel	Drilling Equipment:
On Tecumseh Tire property along edge of ridge line, about 500 feet northeast of tire shop	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 7/23/09 00:00 ▽ Depth (ft bgs) 7.5 After Drilling: Date/Time 7/23/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	50		2	**SILTY SAND** mostly fine to medium sand, some silt, trace fine gravel, light yellowish brown (10YR 6/4), dry, loose.	SM			
			4	**SAND** mostly fine to coarse sand, trace to few fine to medium gravel, pale brown (10YR 6/3), dry, loose.	SW			
2 GP	30		6	Cobbles at 5.0 feet. **SILTY CLAY** mostly silty clay, trace fine gravel, slight plasticity, light gray (10YR 7/2), dry, medium stiff.	CL-ML			
			7.5	▽ **SANDY SILT** mostly silt, little fine sand, trace to few clay, nonplastic, yellowish brown (10YR 5/6), saturated at 7.5 feet, stiff.	ML			
3 GP	75		8	**GRAVELLY SAND** mostly fine to coarse sand, little fine to medium gravel, trace coarse gravel, trace silt, brown (10YR 5/3), damp, dense.				
			10					
			12	Same as above.	SW			
4 GP	60		14					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 9/10/09

Signature:

Firm: RMT Inc.
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RMT

WELL CONSTRUCTION LOG

WELL NO. MW-16s/B-42

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				Same as above.				
5 GP	70		18					
			20	Same as above.				
6 GP	40		22					
			24		SW			
7 GP	60		26					
				Same as above.				
			28					
8 GP	60		30					
				Change to wet to saturated at 31.5 feet.				Not enough water to sample at 31.5 feet.
			32	**CLAY** few fine to medium gravel, slight plasticity, gray (10YR 5/1), dry to damp, stiff.				
9 GP	100		34		CL			
			36	End of boring at 36.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 9/10/09

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	MW-16S
PROJ. NO:	8070.02	DATE INSTALLED:	7/23/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
783.30	0.0	GROUND SURFACE
782.90	0.4	TOP OF CASING
--	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: --
		GROUT/BACKFILL METHOD: --
4.10	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	3.0	BENTONITE SEAL
778.80	4.5	TOP OF SCREEN
		FILTER PACK MATERIAL: WELL GRAVEL
5.00		
773.80	9.5	BOTTOM OF SCREEN
	9.5	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
747.30	36.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 8.0 IN. FROM 0.0 TO 9.5 FT.
2.0 IN. FROM 9.5 TO 36.0 FT.

SURF. CASING DIAMETER: NA IN. FROM NA TO NA FT.
NA IN. FROM NA TO NA FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- MINUTES

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	DRY	T/PVC	7/23/2009	1700
DTB AFTER DEVELOPING:	NA	T/PVC	NA	NA
SWE BEFORE DEVELOPING:	DRY	T/PVC	7/23/2009	1700
SWE AFTER DEVELOPING:	NA	T/PVC	NA	NA
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

SOIL BORING LOG

RMT

BORING NO. B-43

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	7/23/09	7/23/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push	---	---	32.0	2

Boring Location:	Personnel	Drilling Equipment:
On Birchfield property along ridge line, about 1500 feet east of north corner of tire shop	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 7/23/09 00:00 Depth (ft bgs) -- After Drilling: Date/Time 7/23/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	100		2	**SANDY SILT** mostly silt, some fine to medium sand, few fine gravel, yellowish brown (10YR 5/4), dry, stiff.	ML		
2 GP	100		4	**SILTY CLAY** few fine sand, few fine gravel, slight plasticity, brown (10YR 5/3), dry to damp, stiff.	CL-ML		
3 GP	100		8	Above grades to dark grayish brown (10YR 4/2) at 9.0 feet.			
4 GP	100		12	**SANDY GRAVEL** mostly fine to coarse gravel, some fine to coarse sand, trace silt, brown (10YR 5/3), damp to moist, medium dense to dense.	GW		
			14				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

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SOIL BORING LOG

RMT

BORING NO. B-43

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			16	Change to moist at 16.0 feet.			
5 GP	50		18				
			20	Change to damp at 20.0 feet.			
6 GP	50		22				
			24	Same as above.	GW		
7 GP	50		26				
			28	Same as above.			
8 GP	50		30				
			32	End of boring at 32.0 feet below ground surface.			
			34				
			36				

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

WELL CONSTRUCTION LOG

RMT

WELL NO. MW-17s/B-44

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - Phase II Investigation	7/23/09	7/23/09	8070.02

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terraprobe, Inc.	Direct Push/HSA	---	---	8.0	2-8

Boring Location:	Personnel	Drilling Equipment:
On Birchfield property, about 1800 feet east of north corner of tire shop	Logged By - Brent Ritchie Driller - Joe Fotjik	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 7/23/09 00:00 ▽ Depth (ft bgs) 5.0 After Drilling: Date/Time 7/23/09 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL**				
1 GP	40		2	**SAND WITH GRAVEL** mostly fine to coarse sand, little fine to coarse gravel, trace to few silt, yellowish brown (10YR 5/4), damp, medium dense.	SW			
2 GP	50		4	▽ Change to saturated at 5.0 feet.				
			6	**SILTY CLAY** few fine to medium gravel, slight plasticity, brown (10YR 5/3), damp, stiff.	CL-ML			
			8	End of boring at 8.0 feet below ground surface.				
			10					
			12					
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.02.GPJ RMT_CORP.GDT 8070.02 8/26/09

Signature:

Firm: RMT Inc.
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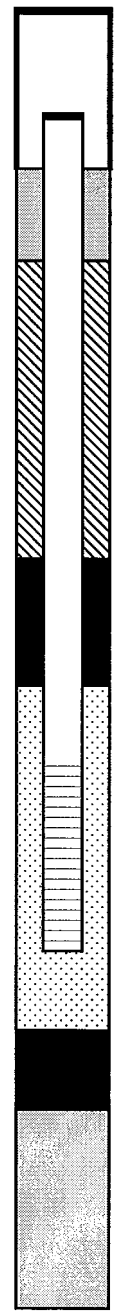
RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Co. - Tecumseh Mfg. Facility			WELL ID:	**MW-17S**
PROJ. NO:	8070.02	DATE INSTALLED:	7/23/2009	INSTALLED BY: Brent Ritchie	CHECKED BY: JB

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
755.20	0.0	GROUND SURFACE
754.49	0.7	TOP OF CASING
--	0.5	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: --
		GROUT/BACKFILL METHOD: --
2.30	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	2.0	BENTONITE SEAL
752.19	3.0	TOP OF SCREEN
5.00		FILTER PACK MATERIAL: WELL GRAVEL
747.19	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: --
747.19	8.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH



NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 2-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 2-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	8.0	IN. FROM	0.0	TO	8.0	FT.
	NA	IN. FROM	NA	TO	NA	FT.
SURF. CASING DIAMETER:	NM	IN. FROM	NM	TO	NM	FT.
	NA	IN. FROM	NA	TO	NA	FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: SURGE AND PUMP

TIME DEVELOPING: 0.25 HOURS

WATER REMOVED: 3 GALLONS

WATER ADDED: 0 GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: VERY TURBID

COLOR BEFORE: YELLOWISH BROWN

CLARITY AFTER: SLIGHT TO MEDIUM TURBID

COLOR AFTER: SLIGHT YELLOWISH BROWN

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	7.63	T/PVC	7/23/2009	1616
DTB AFTER DEVELOPING:	7.63	T/PVC	7/23/2009	1633
SWE BEFORE DEVELOPING:	5.33	T/PVC	7/23/2009	1616
SWE AFTER DEVELOPING:	5.34	T/PVC	7/23/2009	1633
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: 3120

REVISED 03/2008

SOIL BORING LOG

RMT

BORING NO. B-45

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/22/11	2/22/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	25.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 70 feet south of Mohawk Street, 10 feet west of eastern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/22/11 00:00 ▽ Depth (ft bgs) 10 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**CLAYEY SAND WITH GRAVEL** mostly fine to coarse sand, little fine gravel, little lean clay, dark yellowish brown (10YR 3/6), no odor, moist, loose to medium dense.	SC		
1 GP	50		2	**SANDY SILT** mostly silt, some fine sand, trace gravel, very dark brown (10YR 2/2), no odor, moist, medium dense. Change to very dark yellowish brown (10YR 3/4).	ML		
2 GP	92.5		4	**LEAN CLAY WITH SAND** mostly lean clay, little fine sand, very plastic, dark brown (10YR 3/3), no odor, moist, medium stiff to stiff.	CL		
			6	**WELL GRADED SAND** mostly fine to coarse sand, few silt, few to little sub-rounded gravel, dark yellowish brown (10YR 4/6), no odor, moist, medium dense.			
			8	Same as above.	SW		
3 GP	65		10 ▽	Change to trace gravel, saturated.			Collected grab groundwater sample from 10-12 ft bgs at 12:15 on 2/22/2011

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature: [signature]

Checked By: John Bacon

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SOIL BORING LOG

RMT

BORING NO. B-45

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Same as above.			
4 GP	97.5		14				Collected grab groundwater sample from 14-16 ft bgs at 11:31 on 2/22/2011
				Change to few to little gravel, very dark grayish brown (10YR 3/2).			
			16				Heaving sand prevent sample collection below 16 feet
			18		SW		
			20				
			22				Collected grab groundwater sample from 22-24 ft bgs at 10:48 on 2/22/2011
			24				
				End of boring at 25.0 feet below ground surface.			Attempted to set temporary well from 23-25 ft bgs, rose 1 foot when rods were pulled
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-46

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/22/11	2/22/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	23.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 210 feet south of Mohawk Street, 10 feet west of eastern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/22/11 00:00 ▽ Depth (ft bgs) 8 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
				CLAYEY SAND WITH GRAVEL mostly fine to coarse sand, little fine to coarse angular to sub-angular gravel, little clay, dark yellowish brown (10YR 3/4), no odor, moist, medium dense.	SC		
1 GP	85		2	**SILTY CLAY WITH SAND** mostly lean clay, some silt, little fine to coarse sand, slightly plastic, yellowish brown (10YR 5/8), no odor, moist, stiff to very stiff.	CL-ML		
				LEAN CLAY WITH SAND mostly lean clay, little fine sand, plastic, dark yellowish brown (10YR 4/6), no odor, moist, stiff to very stiff.	CL		
2 GP	0		4				No recovery due to rock in sampler
			6				
			8 ▽	**POORLY GRADED SAND WITH GRAVEL** mostly coarse sand, some fine to coarse sub-rounded gravel, dark yellowish brown (10YR 3/6), no odor, saturated, loose to medium dense.	SP		Collected grab groundwater sample from 8-10 ft bgs at 13:53 on 2/22/2011
3 GP	62.5		10	**WELL GRADED SAND** mostly fine to coarse sand, few fine sub-rounded to sub-angular gravel, dark brown (10YR 3/3), no odor, saturated, loose to medium dense.	SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature:

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Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. B-46

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Same as above.	SW		
4 GP	100		14	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little fine sub-rounded to sub-angular gravel, dark brown (10YR 3/3), no odor, saturated, loose to medium dense.	SW		Collected grab groundwater sample from 14-16 ft bgs at 12:51 on 2/22/2011
			16	**WELL GRADED SAND** mostly fine to coarse sand, few fine sub-rounded to sub-angular gravel, dark brown (10YR 3/3), no odor, saturated, loose to medium dense.			Heaving sand prevent sample collection below 16 feet
			18				
			20		SW		
			22				Collected grab groundwater sample from 21-23 ft bgs at 11:48 on 2/22/2011
				End of boring at 23.0 feet below ground surface.			
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-47

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/22/11	2/22/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	23.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 350 feet south of Mohawk Street, 10 feet west of eastern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/22/11 00:00 ▽ Depth (ft bgs) 7.75 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	87.5		2	**SILTY CLAY WITH SAND** mostly lean clay, little silt, little fine sand, plastic, dark yellowish brown (10YR 3/6), no odor, moist, stiff.	CL-ML		
2 GP	82.5		4	**WELL GRADED SAND** mostly fine to coarse sand, few fine to coarse sub-rounded to sub-angular gravel, few silt, dark yellowish brown (10YR 4/4), no odor, moist, loose to medium dense.	SW		
			6	▽ Change to saturated.			Collected grab groundwater sample from 7.75-9.75 ft bgs at 15:40 on 2/22/2011
3 GP	75		8				
			10				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature:

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Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. B-47

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Same as above.			
4 GP	85		14				Collected grab groundwater sample from 14-16 ft bgs at 14:32 on 2/22/2011
			16				Heaving sand prevent sample collection below 16 feet
			18		SW		
			20				
			22				Collected grab groundwater sample from 21-23 ft bgs at 13:37 on 2/22/2011
				End of boring at 23.0 feet below ground surface.			
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-48

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/22/11	2/22/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	22.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 490 feet south of Mohawk Street, 10 feet west of eastern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/22/11 00:00 ▽ Depth (ft bgs) 7.25 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
				CLAYEY SAND mostly fine to coarse sand, some lean clay, few gravel, slightly plasitc, very dark brown (10YR 2/2) with orange mottling, no odor, moist, medium dense.	SC		
1 GP	75		2	**SANDY LEAN CLAY** mostly lean clay, some fine sand, few silt, plastic, dark brown (10YR 3/3), no odor, moist, stiff to very stiff.	CL		
			4	**SILTY SAND** mostly fine sand, little silt, few gravel, dark yellowish brown (10YR 4/4), no odor, moist, medium dense.	SM		
2 GP	87.5		6	**SILTY CLAY** mostly lean clay, little silt, few fine sand, plastic, brown (10YR 4/3), no odor, moist, very stiff to hard.	CL-ML		
			▽	**WELL GRADED SAND** mostly fine to coarse sand, few silt, trace coarse gravel, dark yellowish brown (10YR 4/6), no odor, saturated, loose to medium dense.			Collected grab groundwater sample from 7-9 ft bgs at 17:08 on 2/22/2011
			8				
3 GP	80		10		SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature: [signature]

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RMT

SOIL BORING LOG

BORING NO. B-48

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Same as above.			Collected grab groundwater sample from 13-15 ft bgs at 16:29 on 2/22/2011
4 GP	92.5		14	Change to few to little fine to coarse sub-rounded to sub-angular gravel.			
			16				Heaving sand prevent sample collection below 16 feet
					SW		
			18				
			20				Collected grab groundwater sample from 19.5-21.5 ft bgs at 15:28 on 2/22/2011
			22	End of boring at 22.0 feet below ground surface.			
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-49

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/22/11	2/22/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	22.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 630 feet south of Mohawk Street, 10 feet west of eastern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/22/11 00:00 ▽ Depth (ft bgs) 7.0 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	77.5		2	**SANDY LEAN CLAY** mostly lean clay, some fine to medium sand, few silt, plastic, dark yellowish brown (10YR 4/6), no odor, moist, medium stiff to stiff. 1-inch sand seam at 2 feet below ground surface. 2-inch sand seam at 3.25 feet below ground surface.	CL		
2 GP	75		4 6	3-inch sand seam at 4.5 feet below ground surface. 1-inch sand seam at 5.25 feet below ground surface. 2-inch sand seam at 6.25 feet below ground surface. ▽ **POORLY GRADED SAND** mostly fine to medium sand, few coarse sand, few silt, dark brown (10YR 3/3), no odor, saturated, medium dense.	SP		
3 GP	82.5		8 10	**WELL GRADED SAND** mostly fine to coarse sand, few silt, few sub-rounded to sub-angular gravel, dark yellowish brown (10YR 4/4), no odor, saturated, loose.	SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature:

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Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. B-49

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Same as above.			
4 GP	95		14				Collected grab groundwater sample from 13-15 ft bgs at 16:58 on 2/22/2011
			16				Heaving sand prevent sample collection below 16 feet
			18		SW		
			20				Collected grab groundwater sample from 19.5-21.5 ft bgs at 16:22 on 2/22/2011
			22	End of boring at 22.0 feet below ground surface.			
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-50

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/23/11	2/23/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	22.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 770 feet south of Mohawk Street, 10 feet west of eastern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/23/11 00:00 ▽ Depth (ft bgs) 7.0 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	62.5		2	**SANDY LEAN CLAY** mostly lean clay, some fine sand, little silt, plastic, dark brown (10YR 3/3) with dark yellowish brown (10YR 4/6) mottling, no odor, moist, medium stiff to stiff.	CL		
				Change to some fine to coarse sand, few silt, few fine to coarse rounded to sub-rounded gravel, light olive brown (2.5 Y 5/3).			
			4	Same as above.			
				CLAYEY SAND mostly fine to coarse sand, little lean clay, few silt, dark yellowish brown (10YR 3/6), no odor, moist, loose to medium dense.	SC		
2 GP	75		6	**LEAN CLAY WITH SAND** mostly lean clay, little fine to medium sand, trace fine to coarse rounded to sub-rounded gravel, few silt, plastic, dark yellowish brown (10YR 4/4), no odor, moist, stiff.	CL		
			▽	**WELL GRADED SAND** mostly fine to coarse sand, few silt, trace sub-rounded to sub-angular gravel, dark yellowish brown (10YR 3/6), no odor, saturated, medium dense.	SW		Collected grab groundwater sample from 7-9 ft bgs at 12:20 on 2/23/2011
			8	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, few silt, little sub-rounded to sub-angular gravel, dark yellowish brown (10YR 3/6), no odor, saturated, medium dense.	SW		
3 GP	77.5		10	**WELL GRADED SAND** mostly fine to coarse sand, few silt, few sub-rounded to sub-angular gravel, dark yellowish brown (10YR 3/6), no odor, saturated, medium dense.	SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature: [signature]

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Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. B-50

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
4 GP	57.5		14	**POORLY GRADED SAND** mostly fine to medium sand, few silt, trace sub-rounded to sub-angular gravel, dark yellowish brown (10YR 3/6), no odor, saturated, medium dense.	SP		Collected grab groundwater sample from 13-15 ft bgs at 11:01 on 2/23/2011
			16	2-inch lens of sub-rounded to sub-angular gravel at 15 feet below ground surface.			Heaving sand prevent sample collection below 16 feet
			18				
			20				Collected grab groundwater sample from 20-22 ft bgs at 10:08 on 2/23/2011
			22	End of boring at 22.0 feet below ground surface.			
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-51

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/23/11	2/23/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	22.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 910 feet south of Mohawk Street, 10 feet west of eastern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/23/11 00:00 ▽ Depth (ft bgs) 7.0 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	62.5		2	**SANDY LEAN CLAY** mostly lean clay, some fine sand, little silt, plastic, dark grayish brown (2.5Y 4/2) with dark yellowish brown (10YR 4/6) mottling, no odor, moist, medium stiff.	CL		
			4	Change to some fine to coarse sand, very dark grayish brown (10YR 3/2) with no mottling. Same as above.			
2 GP	77.5		6	**WELL GRADED SAND** mostly fine to coarse sand, few fine to coarse sub-angular to angular gravel, olive brown (2.5 Y 4/3), no odor, dry to moist, loose to medium dense.	SW		
				SANDY LEAN CLAY as above, dark yellowish brown (10YR 3/4), stiff.	CL		
				WELL GRADED SAND WITH GRAVEL well graded sand as above with little gravel. ▽ Change to dark yellowish brown (10YR 3/4), saturated.			Collected grab groundwater sample from 7-9 ft bgs at 13:37 on 2/23/2011
			8	Same as above.			
3 GP	82.5		10		SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature:

Checked By: John Bacon

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SOIL BORING LOG

RMT

BORING NO. B-51

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				WELL GRADED SAND mostly fine to coarse sand, trace fine to coarse sub-angular to angular gravel, dark yellowish brown (10YR 3/4), no odor, saturated, loose to medium dense.	SW		Collected grab groundwater sample from 13-15 ft bgs at 11:35 on 2/23/2011
4 GP	80		14	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little fine to coarse sub-angular to angular gravel, dark yellowish brown (10YR 3/4), no odor, saturated, loose to medium dense.	SW		
			16				Heaving sand prevent sample collection below 16 feet
			18				
			20				Collected grab groundwater sample from 20-22 ft bgs at 10:56 on 2/23/2011
			22	End of boring at 22.0 feet below ground surface.			
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-52

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/23/11	2/23/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	22.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 1040 feet south of Mohawk Street, 10 feet west of eastern fence, 10 north of southern fence	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/23/11 00:00 ▽ Depth (ft bgs) 7.0 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	62.5		2	**SILTY SAND** mostly fine sand, some silt, trace lean clay, dark yellowish brown (10YR 3/4), no odor, dry to moist, medium dense, tree roots.	SM		
			4	**CLAYEY SAND** mostly fine to coarse sand, little lean clay, few to little silt, slightly plasitc, dark grayish brown (10YR 3/2), no odor, dry to moist, medium dense.	SC		
2 GP	65		6	**SANDY LEAN CLAY** mostly lean clay, some fine sand, plastic, brown (10YR 4/3), no odor, moist, stiff to very stiff.	CL		
				▽ **WELL GRADED SAND** mostly fine to coarse sand, few silt, trace sub-rounded to sub-angular gravel, very dark grayish brown (10YR 3/2), no odor, saturated, medium dense.			Collected grab groundwater sample from 7-9 ft bgs at 13:19 on 2/23/2011
			8	1-inch lens of lean clay at 8.75 feet below ground surface.			
3 GP	72.5		10	Change to few gravel.	SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature: _____

Checked By: John Bacon

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

SOIL BORING LOG

RMT

BORING NO. B-52

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Same as above.	SW		
				WELL GRADED SAND WITH GRAVEL mostly fine to coarse sand, few silt, some sub-rounded to sub-angular gravel, very dark grayish brown (10YR 3/2), no odor, saturated, medium dense.	SW		Collected grab groundwater sample from 13-15 ft bgs at 12:29 on 2/23/2011
4 GP	80		14	**WELL GRADED SAND** mostly fine to coarse sand, few silt, few sub-rounded to sub-angular gravel, very dark grayish brown (10YR 3/2), no odor, saturated, medium dense. Change to very dark gray (10YR 3/1).			
			16				Heaving sand prevent sample collection below 16 feet
			18		SW		
			20				Collected grab groundwater sample from 20-22 ft bgs at 11:28 on 2/23/2011
			22	End of boring at 22.0 feet below ground surface.			
			24				
			26				

SOIL BORING LOG

RMT

BORING NO. B-53

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/23/11	2/23/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	26.0	3

Boring Location: Along eastern perimeter of site on Parcel 325-0250-00, 46 feet south of southern fence, 10 feet west of eastern property line

Personnel: Logged By - Stacy Metz; Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620D

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 2/23/11 00:00 ▽ Depth (ft bgs) 17.5
After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	45		2	**SANDY LEAN CLAY** mostly lean clay, some fine to coarse sand, few to little fine to coarse sub-rounded to sub-angular gravel, plastic, dark yellowish brown (10YR 3/4), no odor, moist, stiff.	CL		
2 GP	25		4	Same as above.			Poor recovery due to rock in sampler
			6	**WELL GRADED SAND** mostly fine to coarse sand, few fine to coarse sub-angular to angular gravel, few silt, dark yellowish brown (10YR 4/6), no odor, dry, loose.	SW		
			8	Same as above.			
3 GP	92.5		10	Change to moist.			
				Change to medium dense to dense.			

SOIL BORING WELL CONSTRUCTION LOG 8070.16 2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: John Bacon

SOIL BORING LOG

RMT

BORING NO. B-53

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
4 GP	75		14	Same as above.			
			16	Same as above.			
5 GP	75		18	▽ Change to saturated.	SW		Collected grab groundwater sample from 18-20 ft bgs at 15:41 on 2/23/2011
			20	Same as above.			
6 GP	87.5		22				
			24				Heaving sand prevent sample collection below 24 feet Collected grab groundwater sample from 24-26 ft bgs at 14:58 on 2/23/2011
			26	End of boring at 26.0 feet below ground surface.			

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

RMT

BORING NO. B-54

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	2/23/11	2/23/11	8070.16

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	28.0	3

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site on Parcel 325-0250-00, 125 feet south of southern fence, 10 feet west of eastern property line	Logged By - Stacy Metz Driller - Ray Bashaw	Geoprobe 6620D

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 2/23/11 00:00 ▽ Depth (ft bgs) 18 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	62.5		2	**SANDY LEAN CLAY** mostly lean clay, some fine to medium sand, few silt, slightly plastic, dark yellowish brown (10YR 3/4), no odor, moist, very stiff.	CL		
2 GP	67.5		4	**SILTY SAND** mostly fine to medium sand, little silt, few fine to coarse sub-angular to angular gravel, yellowish brown (10YR 5/4), no odor, dry, loose to medium dense.	SM		No recovery due to broken sampler
3 GP	0		6				
			8				
			10				
			12	Same as above.			

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

Signature:

Checked By: John Bacon

Firm: RMT, Inc.
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SOIL BORING LOG

RMT

BORING NO. B-54

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
					SM		
4 GP	100		14	**WELL GRADED SAND** mostly fine to coarse sand, few fine to coarse sub-rounded to sub-angular gravel, few silt, dark yellowish brown (10YR 4/4), no odor, moist, medium dense to dense.			
			16	Same as above.			
5 GP	75		18 ▽	Change to saturated.			Collected grab groundwater sample from 18-20 ft bgs at 16:24 on 2/23/2011
			20	Same as above.	SW		
6 GP	72.5		22				
			24				Heaving sand prevent sample collection below 24 feet
			26				Collected grab groundwater sample from 26-28 ft bgs at 15:47 on 2/23/2011
			28	End of boring at 28.0 feet below ground surface.			
			30				

SOIL BORING WELL CONSTRUCTION LOG 8070.16_2011.GPJ RMT_CORP.GDT 8070.16 3/22/11

SOIL BORING LOG

TRC

BORING NO. B-55

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products- Clay Layer Investigation	2/24/11	2/24/11	02751.13.001

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	24.0	3

Boring Location: In Ottawa Street, 213 feet south of center of Cummins Street, 12 feet east of center of Ottawa Street, 4 feet off of west curb.

Personnel
Logged By - Stacy Metz
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620D

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	Michigan

Water Level Observations:
While Drilling: Date/Time 2/24/11 00:00 ▽ Depth (ft bgs) 22
After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**ASPHALT**			
1 GP	65		2	**CLAYEY SAND WITH GRAVEL** mostly fine to coarse sand, some subangular gravel, little clay, slightly plastic, dark yellowish brown (10YR 3/6), no odor, wet to saturated, medium dense.	SC		
			4	**SANDY LEAN CLAY** mostly lean clay, some fine to coarse sand, few gravel, very plastic, dark yellowish brown (10YR 3/6), no odor, saturated, medium stiff. Change to moist at 3.5 feet.	CL		
2 GP	60		6	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little fine to coarse subrounded to subangular gravel, few to little silt, dark yellowish brown (10YR 3/4), no odor, moist, loose to medium dense. Same as above.	SW		
3 GP	75		8	**WELL GRADED SAND** mostly fine to coarse sand, trace fine to coarse subrounded to subangular gravel, few to little silt, dark yellowish brown (10YR 3/4), no odor, moist, loose to medium dense.	SW		
			10				

SOIL BORING WELL CONSTRUCTION LOG 8070.13 2011.GPJ TRC_CORP.GDT 02751.13.001 11/10/11

Signature:

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734)971-7080
Fax (734)971-9022

SOIL BORING LOG

BORING NO. B-55

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Change to few gravel at 12 feet.	SW		
4 GP	80		14	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little fine to coarse subrounded to subangular gravel, few to little silt, dark yellowish brown (10YR 3/4), no odor, moist, loose to medium dense.			
			16	Same as above.			
5 GP	80		18		SW		
			20	**WELL GRADED SAND** mostly fine to coarse sand, few fine to coarse subrounded to subangular gravel, few to little silt, dark yellowish brown (10YR 3/4), no odor, moist, loose to medium dense.			
6 GP	75		22 ▽	Change to saturated at 22.0 feet.	SW		
			24	End of boring at 24.0 feet below ground surface.			
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.13_2011.GPJ TRC_CORP.GDT 02751.13.001 11/10/11

SOIL BORING LOG

TRC

BORING NO. B-56

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products- Clay Layer Investigation	2/24/11	2/24/11	02751.13.001

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	20.0	3

Boring Location: Along Cummins Street, 400 feet east of center of Ottawa Street, 9 feet south of south curb.

Personnel
Logged By - Stacy Metz
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620D

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	Michigan

Water Level Observations:
While Drilling: Date/Time 2/24/11 00:00 ▽ Depth (ft bgs) 18
After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			Poor recovery in first 8 feet. Conducted a second adjacent boring for better recovery.
1 GP	50		2	**SANDY LEAN CLAY** mostly lean clay, some fine to coarse sand, few gravel, few silt, plastic, dark yellowish brown (10YR 3/6), moist to wet, stiff to very stiff.	CL		
2 GP	75		4	Same as above.			
			6	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little rounded to subrounded gravel, few silt, dark yellowish brown (10YR 4/4), no odor, moist, loose to medium dense.			
3 GP	65		8	Same as above.	SW		
			10				

SOIL BORING WELL CONSTRUCTION LOG 8070.13_2011.GPJ TRC_CORP.GDT 02751.13.001 11/10/11

Signature:

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734)971-7080
Fax (734)971-9022

SOIL BORING LOG

BORING NO. B-56

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
				Same as above.			
4 GP	70		14				
			16	Same as above.	SW		
5 GP	70		18	▽ Change to saturated at 18.0 feet.			
			20	End of boring at 20.0 feet below ground surface.			
			22				
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.13_2011.GPJ TRC_CORP.GDT 02751.13.001 11/10/11

SOIL BORING LOG

TRC

BORING NO. B-57

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products- Clay Layer Investigation	2/24/11	2/24/11	02751.13.001

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	20.0	3

Boring Location: Along Kilbuck Street, 145 feet west of center of Maumee Street, 3 feet north of north curb.

Personnel
Logged By - Stacy Metz
Driller - Ray Bashaw

Drilling Equipment: Geoprobe 6620D

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	Michigan

Water Level Observations:
While Drilling: Date/Time 2/24/11 00:00 ▽ Depth (ft bgs) 16
After Drilling: Date/Time Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
			0	**TOPSOIL**			
1 GP	80		2	**SILTY CLAY** mostly lean clay, some silt, few to little fine to coarse sand, plastic, dark grayish brown (10YR 4/2), no odor, moist, very stiff.	CL-ML		
				CLAYEY SAND WITH GRAVEL mostly fine sand, little clay, little coarse to medium sand, little fine to coarse gravel, dark yellowish brown (10YR 4/6), no odor, moist, very dense, slightly plastic.	SC		
2 GP	55		4	**SANDY LEAN CLAY** mostly lean clay, some fine to coarse sand, few to little gravel, plastic, brown (10YR 4/3), no odor, very moist to saturated, medium stiff to soft.	CL		
			6	**SILTY SAND** mostly fine sand, little silt, dark yellowish brown (10YR 3/4), no odor, wet to saturated, dense.	SM		
				SANDY LEAN CLAY mostly lean clay, some fine sand, little silt, slightly plastic, dark yellowish brown (10YR 3/4), no odor, wet to saturated, stiff.	CL		
			8	Change to some fine to coarse sand, plastic, medium stiff at 7.75 feet.			
3 GP	40		10	**CLAYEY SAND WITH GRAVEL** mostly fine to coarse sand, little to some fine to coarse subrounded to subangular gravel, little clay, dark yellowish brown (10YR 4/6), no odor, moist, medium dense.	SC		
				WELL GRADED SAND WITH GRAVEL mostly fine to coarse sand, little to some fine to coarse subrounded to subangular gravel, trace clay, dark yellowish brown (10YR 4/6), no odor, moist, medium dense.	SW		

SOIL BORING WELL CONSTRUCTION LOG 8070.13_2011.GPJ TRC_CORP.GDT 02751.13.001 11/10/11

Signature:

Firm: TRC Environmental Corp.
1540 Eisenhower Place Ann Arbor, MI
(734)971-7080
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SOIL BORING LOG

TRC

BORING NO. B-57

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	COMMENTS
4 GP	50		14	Same as above.	SW		
			16 ▽	**WELL GRADED SAND** mostly fine to coarse sand, few fine to coarse subrounded to subangular gravel, trace clay, dark yellowish brown (10YR 4/6), no odor, saturated, dense.	SW		
5 GP	80		18	**POORLY GRADED SAND** mostly fine sand, few silt, brown (10YR 4/3), no odor, saturated, dense.	SP		
			20	End of boring at 20.0 feet below ground surface.			
			22				
			24				
			26				

SOIL BORING WELL CONSTRUCTION LOG 8070.13_2011.GPJ TRC_CORP.GDT 02751.13.001 11/10/11

SOIL BORING LOG

RMT

BORING NO. B-58

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 10 feet west of eastern fence, 20 north of southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	80		2	**SILTY SAND** mostly fine to medium sand, some silt, trace lean clay, dark yellowish brown (10YR 3/4), no odor, damp, medium dense.	SM		0 0	Collected grab soil sample and DUP-01 from 3-4 ft bgs at 8:55 on 4/1/2011
			4	**CLAYEY SAND** mostly fine to coarse sand, little lean clay, little silt, slightly plasitc, very dark grayish brown (10YR 3/2), no odor, damp to moist.	SC		0 0	
2 GP	75		6				0 0	Collected grab soil sample from 6-7 ft bgs at 9:03 on 4/1/2011
			▽ 8	**WELL GRADED SAND** mostly fine to coarse sand, few silt, trace clay, very dark grayish brown (10YR 3/2), no odor, saturated, loose.			0	Collected grab groundwater sample from 7-12 ft bgs at 11:03 on 4/1/2011
				Change to few gravel.	SW			
3 GP	80		10	Change to slight odor.				
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18 2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-59

Page 1 of 1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, at eastern fence, 10 north of southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
				LEAN CLAY mostly lean clay, little silt, few sand, plastic, dark yellowish brown (10YR 3/4), no odor, damp, medium stiff.				
1 GP	80		2				0	
							0	Collected grab soil sample from 3-4 ft bgs at 9:16 on 4/1/2011
			4	Same as above.	CL		0	
2 GP	75		6	Change to very dark grayish brown (10 YR 3/2).			0	Collected grab soil sample from 6-7 ft bgs at 9:23 on 4/1/2011
				▽ Change to saturated.			0	Collected grab groundwater sample from 7-12 ft bgs at 13:16 on 4/1/2011
			8	**SILTY SAND** mostly fine to coarse sand, little silt, trace gravel, very dark grayish brown (10YR 3/2), slight odor, saturated.	SM			
3 GP	75		10	**SILTY SAND WITH GRAVEL** mostly fine to coarse sand, little silt, little gravel, very dark grayish brown (10YR 3/2), slight odor, saturated.	SM			
			12	Change to strong odor. End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18_2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-60

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 10 feet west of eastern fence, at southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	80		2	**LEAN CLAY** mostly lean clay, little silt, few sand, plastic, dark yellowish brown (10YR 3/4), no odor, damp, medium stiff.	CL		0	
			4				0	Collected grab soil sample from 3-4 ft bgs at 9:44 on 4/1/2011
2 GP	75		6	Change to very dark grayish brown (10 YR 3/2).			0	Collected grab soil sample from 6-7 ft bgs at 9:54 on 4/1/2011
				▽ Change to saturated.			0	Collected grab groundwater sample from 7-12 ft bgs at 13:29 on 4/1/2011
3 GP	80		8	**WELL GRADED SAND** mostly fine to coarse sand, few silt, trace clay, very dark grayish brown (10YR 3/2), no odor, saturated, loose.	SW			
			10	Change to moderate odor.				
				WELL GRADED SAND WITH GRAVEL mostly fine to coarse sand, little gravel, few silt, trace clay, very dark grayish brown (10YR 3/2), moderate odor, saturated, loose.	SW			
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18_2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-61

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 20 feet west of eastern fence, 10 north of southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	80		2	**LEAN CLAY** mostly lean clay, few fine to medium sand, trace silt, plastic, dark yellowish brown (10YR 3/4), no odor, damp, soft.			0	
			4	Change to very dark grayish brown (10 YR 3/2).	CL		0 0 0	Collected grab soil sample from 3-4 ft bgs at 10:05 on 4/1/2011
2 GP	80		6	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, trace clay, very dark grayish brown (10YR 3/2), slight odor, damp to moist, loose.			0	Collected grab soil sample from 6-7 ft bgs at 10:09 on 4/1/2011
			8	▽ Change to saturated.	SW		0	Collected grab groundwater sample from 7-12 ft bgs at 13:59 on 4/1/2011
3 GP	75		10	Change to few gravel, moderate to strong odor.				
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18_2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-62

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 10 feet west of eastern fence, 30 north of southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	Collected grab soil sample from 1-2 ft bgs at 8:34 on 4/1/2011
1 GP	75		2	**SILTY SAND** mostly fine sand, some silt, trace clay, dark yellowish brown (10YR 3/4), no odor, damp to moist, medium dense.	SM		0 0	Collected grab soil sample from 3-4 ft bgs at 8:39 on 4/1/2011
			4	**WELL GRADED SAND** mostly fine to coarse sand, few silt, trace clay, very dark grayish brown (10YR 3/2), no odor, damp to moist, loose.			0	
2 GP	50		6	▽ Change to saturated.			0 0 0	Collected grab groundwater sample from 7-12 ft bgs at 10:48 on 4/1/2011
3 GP	65		8	Same as above.	SW			
			10					
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18 2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-63

Page 1 of 1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location: Along eastern perimeter of site, 30 feet west of eastern fence, 10 north of southern fence

Personnel: Logged By - John Bacon; Driller - Steve Biscohoff

Drilling Equipment: Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations: While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7; After Drilling: Date/Time ____ Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	75		2	**LEAN CLAY** mostly lean clay, little sand, little silt, plastic, dark yellowish brown (10YR 3/4), no odor, damp, soft.	CL		0	
				Change to very dark grayish brown (10 YR 3/2).			0	Collected grab soil sample from 3-4 ft bgs at 10:21 on 4/1/2011
2 GP	80		4	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, trace clay, very dark grayish brown (10YR 3/2), no odor, damp, loose.	SW		0	
			6				0	Collected grab soil sample from 6-7 ft bgs at 10:26 on 4/1/2011
				▽ Change to saturated.			0	Collected grab groundwater sample from 7-12 ft bgs at 14:11 on 4/1/2011
3 GP	65		8					
			10	Change to few gravel, slight odor.				
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18_2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
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Fax 734-971-9022

Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-64

Page 1 of 1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 40 feet west of eastern fence, 10 north of southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	Stete:	Weter Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7.25 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	90		2	**LEAN CLAY** mostly lean clay, little sand, little silt, plastic, dark yellowish brown (10YR 3/4), no odor, damp, soft.			0	
				Change to very dark grayish brown (10 YR 3/2).			0	
2 GP	85		4		CL		0	
			6				0	
							0	
			8	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, ▽ trace clay, very dark grayish brown (10YR 3/2), no odor, damp, loose. Change to saturated.				Collected grab groundwater sample from 7-12 ft bgs at 14:42 on 4/1/2011
3 GP	90		10	Change to slight to moderate odor.	SW			
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18_2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-65

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 20 feet west of eastern fence, at southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	75		2	**LEAN CLAY** mostly lean clay, little sand, little silt, plastic, dark yellowish brown (10YR 3/4), no odor, damp, soft.			0	
							0	
			4	Change to very dark grayish brown (10 YR 3/2).	CL		0	
2 GP	75		6				0	
							0	
				WELL GRADED SAND mostly fine to coarse sand, trace silt, ▽ trace clay, very dark grayish brown (10YR 3/2), no odor, damp, loose.			0	Collected grab groundwater sample from 7-12 ft bgs at 14:30 on 4/1/2011
			8	Change to saturated.				
3 GP	90		10	Change to slight odor.	SW			
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18 2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
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Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-66

Page 1 of 1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 50 feet west of eastern fence, 10 north of southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	80		2	**LEAN CLAY** mostly lean clay, little sand, little silt, plastic, dark yellowish brown (10YR 3/4), no odor, damp, soft.			0	
			4	Change to very dark grayish brown (10 YR 3/2).	CL		0	
2 GP	80		6	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, trace clay, very dark grayish brown (10YR 3/2), no odor, damp, loose.			0	
				▽ Change to saturated, gravel lens from 7 to 7.25 feet below ground surface.			0	Collected grab groundwater sample from 7-12 ft bgs at 15:24 on 4/1/2011
			8		SW			
3 GP	85		10	Change to few gravel.				
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18 2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

SOIL BORING LOG

RMT

BORING NO. B-67

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	4/1/11	4/1/11	02751.18

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	12.0	2

Boring Location:	Personnel	Drilling Equipment:
Along eastern perimeter of site, 60 feet west of eastern fence, 10 north of southern fence	Logged By - John Bacon Driller - Steve Biscohoff	Geoprobe 6620 DT

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/11 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	PID (PPM)	COMMENTS
			0	**TOPSOIL**			0	
1 GP	90		2	**LEAN CLAY** mostly lean clay, little sand, little silt, plastic, dark yellowish brown (10YR 3/4), no odor, damp, soft.			0	
			4	Change to very dark grayish brown (10 YR 3/2).	CL		0	
2 GP	85		6				0	
				WELL GRADED SAND mostly fine to coarse sand, trace silt, trace clay, very dark grayish brown (10YR 3/2), no odor, damp, ▽loose.			0	Collected grab groundwater sample from 7-12 ft bgs at 15:44 on 4/1/2011
			8	Change to saturated.	SW			
3 GP	90		10	Change to few gravel.				
			12	End of boring at 12.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.18 2011.GPJ RMT_CORP.GDT 02751.18 6/24/11

Signature:

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Stacy Metz

US EPA ARCHIVE DOCUMENT

Soil Gas Sample Point Locations

Soil boring logs and well construction forms are attached for each of the 16 soil gas monitoring points installed between March 2010 and September 2010.

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-01

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	3/31/10	3/31/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.5	2.5

Boring Location: Adjacent to MW-01s on TPC property

Personnel
Logged By - John Bacon
Driller - Ray Bashaw

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 3/31/10 00:00 Depth (ft bgs) --
After Drilling: Date/Time 3/31/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**GRAVEL AND SAND FILL** dry to damp.				
1 HA	80		2	**SANDY SILTY CLAY** mostly clay, little to some sand, little to some silt, damp.	CL-ML			
2 GP	75		4	**WELL GRADED SAND** mostly fine to coarse sand, trace to few gravel, damp.	SW			
3 GP	100		8	Same as above.				
				End of boring at 8.5 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: [signature]

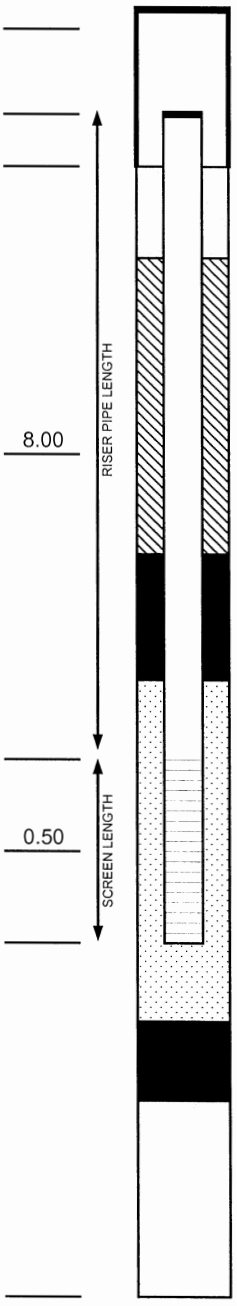
Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Brent Ritchie

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - Off-Site Soil Gas Investigation			WELL ID: SG-01
PROJ. NO: 8070.06	DATE INSTALLED: 3/31/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

7.5 BENTONITE SEAL

8.0 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

8.5 BOTTOM OF SCREEN

8.5 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NA

8.5 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-02

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/2/10	4/2/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.0	2.5

Boring Location: In ROW on east side of Maumee Street, approximately 1000 feet south of Mohawk Street

Personnel
Logged By - John Bacon
Driller - Ray Bashaw

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/2/10 00:00 ▽ Depth (ft bgs) 7
After Drilling: Date/Time 4/2/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 HA	100		0–2.5	**TOPSOIL AND FILL** sand and gravel, organics, asphalt and road base, damp.				
			2.5–5	**SANDY SILT** mostly silt, some sand, few clay, damp.	ML			
2 GP	75		5–8	**WELL GRADED SAND** mostly fine to coarse sand, few gravel, trace silt, damp to wet. ▽ Change to saturated.	SW			
			8	End of boring at 8.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: [signature]

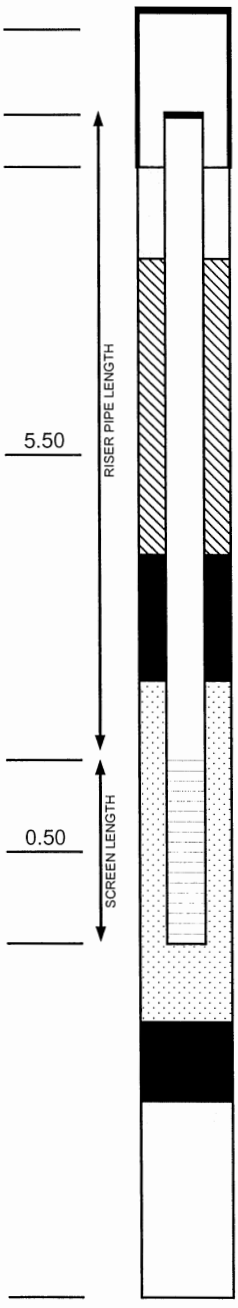
Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Brent Ritchie

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	**SG-02**
PROJ. NO:	8070.06	DATE INSTALLED:	4/2/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0	GROUND SURFACE
0.0	TOP OF CASING
1.0	CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
--	GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
5.0	BENTONITE SEAL
5.5	TOP OF SCREEN
	FILTER PACK MATERIAL: GLASS BEADS
6.0	BOTTOM OF SCREEN
6.0	BOTTOM OF FILTER PACK
--	BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
8.0	HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-03

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/2/10	4/2/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.0	2.5

Boring Location: In ROW on east side of Maumee Street, approximately 500 feet south of Mohawk Street

Personnel
Logged By - John Bacon
Driller - Ray Bashaw

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/2/10 00:00 ▽ Depth (ft bgs) 6.5
After Drilling: Date/Time 4/2/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 HA	100		0–3	**TOPSOIL AND FILL** sand and gravel, organics, damp.				
			3–6.5	**SANDY SILT** mostly silt, some sand, trace clay, damp. Same as above.	ML			
2 GP	90		6.5–8	▽ **WELL GRADED SAND** mostly fine to coarse sand, trace gravel, trace silt, saturated.	SW			
			8	End of boring at 8.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature:

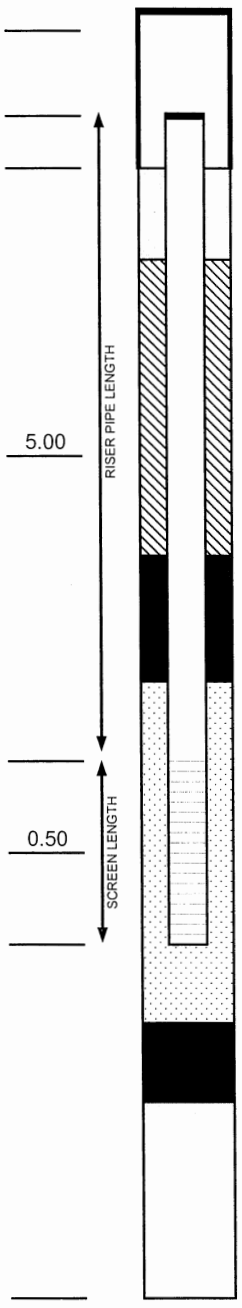
Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Brent Ritchie

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-03
PROJ. NO:	8070.06	DATE INSTALLED:	4/2/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



	0.0 GROUND SURFACE
	0.0 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
5.00	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	4.5 BENTONITE SEAL
	5.0 TOP OF SCREEN
	FILTER PACK MATERIAL: GLASS BEADS
0.50	5.5 BOTTOM OF SCREEN
	5.5 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
	8.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-04

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/2/10	4/2/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.0	2.5

Boring Location:	Personnel	Drilling Equipment:
In ROW on southeast corner of Maumee Street and Mohawk Street	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/2/10 00:00 ▽ Depth (ft bgs) 6.5 After Drilling: Date/Time 4/2/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, organics, damp.				
1 HA	100		1	**SANDY SILT** mostly silt, some sand, trace clay, damp.	ML			
			2					
			3					
			4					
			5	**WELL GRADED SAND** mostly fine to coarse sand, trace gravel, trace silt, damp to wet.				
2 GP	80		6	▽ Change to saturated.	SW			
			7					
			8	End of boring at 8.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: [signature]

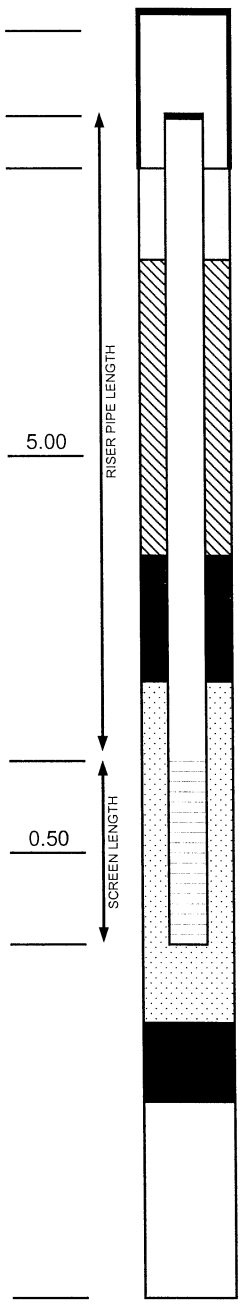
Checked By: Brent Ritchie

Firm: RMT Inc. 734-971-7080
3754 Ranchero Drive Ann Arbor, MI 48108 Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-04
PROJ. NO:	8070.06	DATE INSTALLED:	4/2/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

4.5 BENTONITE SEAL

5.0 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

5.5 BOTTOM OF SCREEN

5.5 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-05

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/1/10	4/1/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	10.0	2.5

Boring Location:	Personnel	Drilling Equipment:
On former TPC Emerson Building Property, near northeast corner of Patterson Street and Maumee Street	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/10 00:00 ▽ Depth (ft bgs) 3.5 After Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, grass, organics, damp.				
1 HA	100		1	**SANDY SILT** mostly silt, some sand, trace clay, damp.	ML			
			2					
			3	▽ Change to saturated.				
			4	**POORLY GRADED SAND** mostly fine to medium sand, trace silt, saturated.	SP			
			5	**SILTY CLAY** mostly silt and clay, trace sand, low plasticity, damp.	CL-ML			
2 GP	75		6					
			7					
			8	**POORLY GRADED SAND** mostly fine to medium sand, moist. Same as above.	SP			
3 GP	75		9	**WELL GRADED SAND** mostly fine to coarse sand, trace gravel, saturated.	SW			
			10	End of boring at 10.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: Brent Ritchie

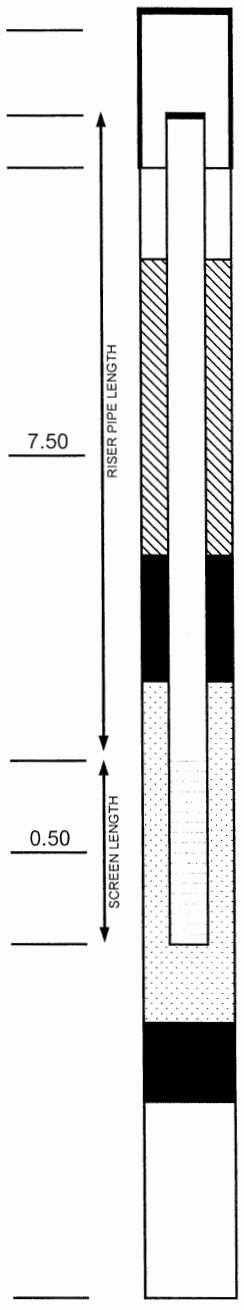
Checked By: Brent Ritchie

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-05
PROJ. NO:	8070.06	DATE INSTALLED:	4/1/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

7.0 BENTONITE SEAL

7.5 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

8.0 BOTTOM OF SCREEN

8.0 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

10.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 10 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-06

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/1/10	4/1/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.5	2.5

Boring Location:	Personnel	Drilling Equipment:
In ROW across from MW-04s on Patterson Street, adjacent to substation	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) -- After Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, organics, damp.				
1 HA	90		2	**SILTY CLAY** mostly clay, some silt, few sand, trace gravel, low plasticity, damp.	CL-ML			
			4	Same as above.				
2 GP	95		5	**WELL GRADED SAND** mostly fine to coarse sand, few silt, trace gravel, damp.	SW			
			8	Same as above.				
3 GP	100			End of boring at 8.5 feet below ground surface.				

SOIL BORING-WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature:

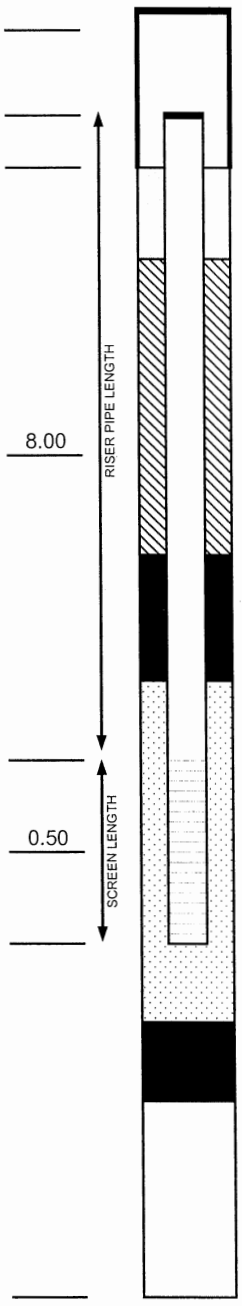
Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Brent Ritchie

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-06
PROJ. NO:	8070.06	DATE INSTALLED:	4/1/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

7.5 BENTONITE SEAL

8.0 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

8.5 BOTTOM OF SCREEN

8.5 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NA

8.5 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-07

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/1/10	4/1/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.5	2.5

Boring Location:	Personnel	Drilling Equipment:
Northwest corner of Patterson Street and Ottawa Street	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) -- After Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, organics, cement.				
1 HA	85		2	**LEAN CLAY** mostly clay, few sand, few gravel, low plasticity, damp.	CL			
			4	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some medium to coarse gravel, damp.				
2 GP	70		6		SW			
3 GP	70		8	Same as above.				
				End of boring at 8.5 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature:

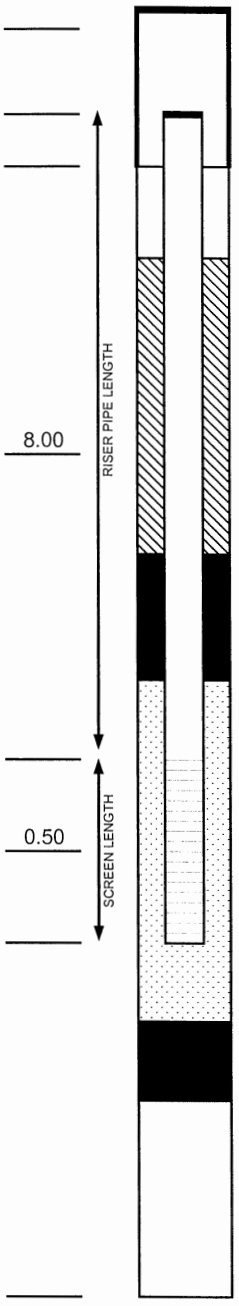
Checked By: Brent Ritchie

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-07
PROJ. NO:	8070.06	DATE INSTALLED:	4/1/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



	0.0 GROUND SURFACE
	0.0 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
8.00	-- GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	7.5 BENTONITE SEAL
	8.0 TOP OF SCREEN
	FILTER PACK MATERIAL: GLASS BEADS
0.50	8.5 BOTTOM OF SCREEN
	8.5 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	8.5 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-08

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/2/10	4/2/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.5	2.5

Boring Location:	Personnel	Drilling Equipment:
In ROW on southwest side of Mohawk Street, approximately 850 southeast of Maumee Street	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/2/10 00:00 ▽ Depth (ft bgs) 8 After Drilling: Date/Time 4/2/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 HA	100		0–2.5	**TOPSOIL AND FILL** sand and gravel, organics, damp.				
			2.5–5	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some gravel, trace silt, damp.				
2 GP	85		5–8	Same as above.	SW			
			8	▽ Change to saturated.				
			8.5	End of boring at 8.5 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: [signature]

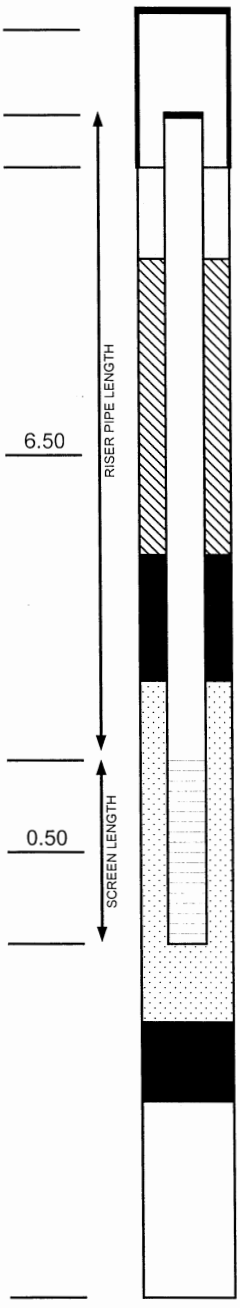
Checked By: Brent Ritchie

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-08
PROJ. NO:	8070.06	DATE INSTALLED:	4/2/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

5.5 BENTONITE SEAL

6.5 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

7.0 BOTTOM OF SCREEN

7.0 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.5 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-09

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/2/10	4/2/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.0	2.5

Boring Location:	Personnel	Drilling Equipment:
In ROW on southwest side of Mohawk Street, approximately 450 northwest of Blood Road	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/2/10 00:00 ∇ Depth (ft bgs) 7 After Drilling: Date/Time 4/2/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 HA	100		0–2.5	**TOPSOIL AND FILL** sand and gravel, organics, aged asphalt and road base, damp.				
			2.5–5	**SANDY SILT** mostly silt, some sand, few clay, damp.	ML			
2 GP	90		5–8	**WELL GRADED SAND** mostly fine to coarse sand, few gravel, trace silt, damp. ∇ Change to saturated.	SW			
			8	End of boring at 8.0 feet below ground surface.				

Signature: [signature]

Checked By: Brent Ritchie

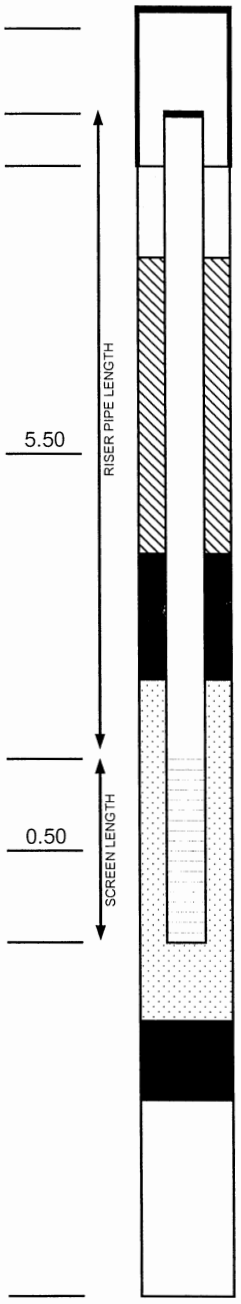
Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-09
PROJ. NO:	8070.06	DATE INSTALLED:	4/2/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

5.0 BENTONITE SEAL

5.5 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

6.0 BOTTOM OF SCREEN

6.0 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-10

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/1/10	4/1/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.5	2.5

Boring Location:	Personnel	Drilling Equipment:
In ROW on south side of Cummins Street, approximately 400 feet east of Ottawa Street	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/10 00:00 ▽ Depth (ft bgs) 6.5 After Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, organics.				
1 HA	100		2	**SANDY SILT** mostly silt, some sand, trace clay, damp.	ML			
2 GP	85		5	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some gravel, trace silt, damp.	SW			
			6	▽ Change to saturated.				
			8	End of boring at 8.5 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: [signature]

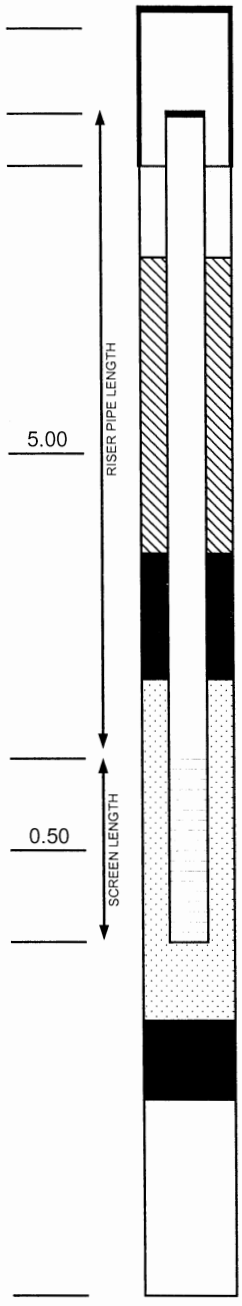
Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Brent Ritchie

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-10
PROJ. NO:	8070.06	DATE INSTALLED:	4/1/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

4.5 BENTONITE SEAL

5.0 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

5.5 BOTTOM OF SCREEN

5.5 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.5 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-11

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/1/10	4/1/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.5	2.5

Boring Location: In ROW on south side of Cummins Street, approximately 150 feet west of Maumee Street

Personnel: Logged By - John Bacon; Driller - Ray Bashaw

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/1/10 00:00 ▽ Depth (ft bgs) 7
After Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 HA	75		0–2	**TOPSOIL AND FILL** sand and gravel, organics, damp.				
			2–3	**SANDY SILT** mostly silt, some sand, trace clay, damp.				
2 GP	75		3–6	Same as above.	ML			
			6–7	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, some gravel, trace silt, damp. ▽ Change to saturated.	SW			
3 GP	100		7–8	Same as above.				
			8	End of boring at 8.5 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: Brent Ritchie

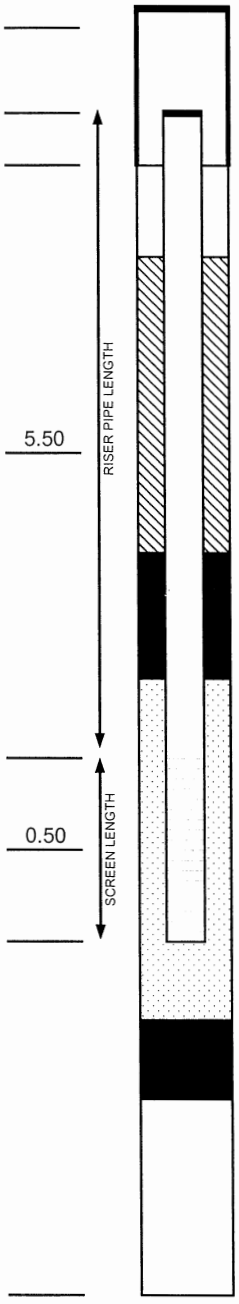
Checked By: Brent Ritchie

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-11
PROJ. NO:	8070.06	DATE INSTALLED:	4/1/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

5.0 BENTONITE SEAL

5.5 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

6.0 BOTTOM OF SCREEN

6.0 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.5 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8.5 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-12

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/2/10	4/2/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.0	2.5

Boring Location:	Personnel	Drilling Equipment:
In ROW on north side of Cummins Street, approximately 150 feet east of Maumee Street	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/2/10 00:00 ▽ Depth (ft bgs) 6.5 After Drilling: Date/Time 4/2/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, organics, asphalt, damp.				
			1	**SANDY SILT** mostly silt, some sand, trace clay, damp.				
1 HA	100		2		ML			
			3					
			4	**WELL GRADED SAND** mostly fine to coarse sand, damp to wet.				
			5	Same as above.	SW			
2 GP	80		6	▽ Change to saturated.				
			7	**SILTY CLAY** mostly silt and clay, trace sand, low plasticity, saturated.	CL-ML			
			8	End of boring at 8.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature:

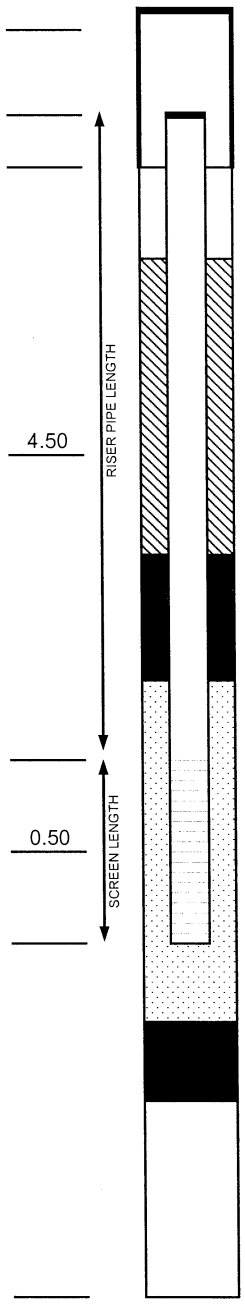
Checked By: Brent Ritchie

Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-12
PROJ. NO:	8070.06	DATE INSTALLED:	4/2/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

4.5 BENTONITE SEAL

5.0 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

5.5 BOTTOM OF SCREEN

5.5 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-13

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/1/10	4/1/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.0	2.5

Boring Location:	Personnel	Drilling Equipment:
In ROW on north side of Kilbuck Street, approximately 150 feet west of Maumee Street	Logged By - John Bacon Driller - Ray Bashaw	Geoprobe

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 4/1/10 00:00 ▽ Depth (ft bgs) 7 After Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, organics, damp.				
1 HA	100		2	**SANDY SILT** mostly silt, some sand, trace clay, damp.	ML			
			5	Same as above.				
2 GP	85		6	**WELL GRADED SAND** mostly fine to coarse sand, trace silt, trace gravel, damp.	SW			
			7 ▽	Change to saturated.				
			8	End of boring at 8.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature: [signature]

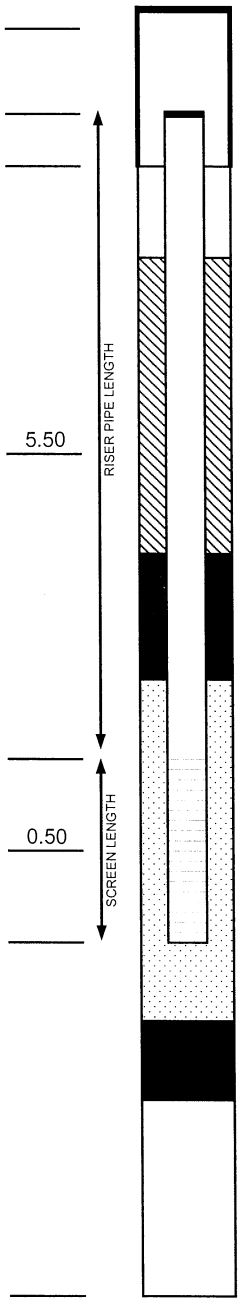
Firm: RMT Inc. 734-971-7080
3754 Ranchero Drive Ann Arbor, MI 48108 Fax 734-971-9022

Checked By: Brent Ritchie

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-13
PROJ. NO:	8070.06	DATE INSTALLED:	4/1/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

5.0 BENTONITE SEAL

5.5 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

6.0 BOTTOM OF SCREEN

6.0 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-14

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company -Soil Gas Sample Point Installation	4/1/10	4/1/10	8070.06

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.0	2.5

Boring Location: In ROW on south side of Kilbuck Street, adjacent to MW-23

Personnel
Logged By - John Bacon
Driller - Ray Bashaw

Drilling Equipment: Geoprobe

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time 4/1/10 00:00 ▽ Depth (ft bgs) 3
After Drilling: Date/Time 4/1/10 00:00 Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
			0	**TOPSOIL AND FILL** sand and gravel, organics, damp to moist.				
1 HA	100		3 ▽	**SILTY CLAY** mostly silt and clay, few sand, trace gravel, low plasticity, damp to wet. Change to saturated.	CL-ML			
2 GP	85		5	**SILTY SAND** mostly fine to coarse sand, some silt, few clay, damp to wet. Same as above. Change to saturated.	SM			
			8	End of boring at 8.0 feet below ground surface.				

SOIL BORING WELL CONSTRUCTION LOG 8070.06.GPJ RMT_CORP.GDT 8070.06 7/12/10

Signature:

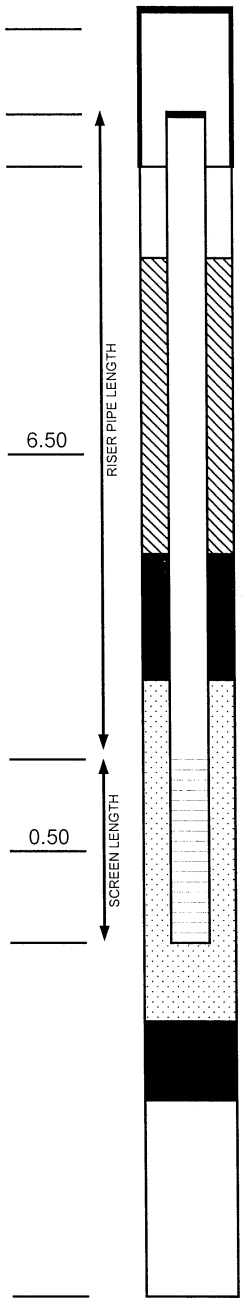
Firm: RMT Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

Checked By: Brent Ritchie

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-14
PROJ. NO:	8070.06	DATE INSTALLED:	4/1/2010	INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

0.0 TOP OF CASING

1.0 CEMENT SURFACE PLUG

GROUT/BACKFILL MATERIAL: NA

GROUT/BACKFILL METHOD: NA

-- GROUT

BENTONITE SEAL MATERIAL: MEDIUM CHIPS

6.0 BENTONITE SEAL

6.5 TOP OF SCREEN

FILTER PACK MATERIAL: GLASS BEADS

7.0 BOTTOM OF SCREEN

7.0 BOTTOM OF FILTER PACK

-- BENTONITE PLUG

BACKFILL MATERIAL: NATURAL COLLAPSE

8.0 HOLE BOTTOM

NOTES:

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2.5 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-15

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/17/10	9/17/10	8070.13

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	11.5	2

Boring Location:	Personnel	Drilling Equipment:
In ROW on west side of Maumee Street between Kilbuck and Cummins Street	Logged By - Stacy Metz Driller - Craig Tanicala	Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:	Water Level Observations:
Tecumseh	Lenawee	MI	While Drilling: Date/Time 9/17/10 00:00 ∇ Depth (ft bgs) 5 After Drilling: Date/Time Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
				TOPSOIL				
1 HA	100		2	**SANDY LEAN CLAY** mostly clay, some fine to coarse sand, plastic, dark brown (10YR 3/3), no odor, moist, medium stiff.	CL			
			4	**SILTY SAND** mostly fine to coarse sand, little silt, dark yellowish brown (10YR 4/6), no odor, wet, medium dense. ∇ Change to saturated at 5 feet below ground surface.	SM			
2 GP	93		6					
			8	**SANDY LEAN CLAY** mostly clay, some fine to coarse sand, few silt, plastic, brown (10YR 4/3), no odor, saturated, stiff to very stiff.	CL			
3 GP	100		10	**WELL GRADED SAND WITH GRAVEL** mostly fine to coarse sand, little to some gravel, dark yellowish brown (10YR 4/6), no odor, moist to wet, medium dense.	SW			Greater than 100% recovery due to heaving sands, ~ 2.3 feet of slough
			12	End of boring at 11.5 feet below ground surface.				
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.12_2010.GPJ RMT_CORP.GDT 8070.13 1/12/11

Signature: [signature]

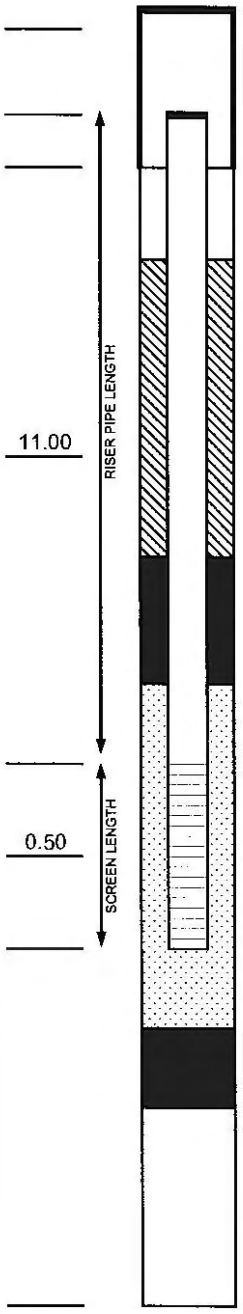
Checked By: John Bacon

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-15
PROJ. NO:	8070.13	DATE INSTALLED:	9/17/2010	INSTALLED BY: Stacy Metz	CHECKED BY: John Bacon

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0	GROUND SURFACE
0.0	TOP OF CASING
1.0	CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: NA
	GROUT/BACKFILL METHOD: NA
11.00	RISER PIPE LENGTH
--	GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
10.4	BENTONITE SEAL
11.0	TOP OF SCREEN
	FILTER PACK MATERIAL: GLASS BEADS
0.50	SCREEN LENGTH
11.5	BOTTOM OF SCREEN
11.5	BOTTOM OF FILTER PACK
--	BENTONITE PLUG
	BACKFILL MATERIAL: NA
11.5	HOLE BOTTOM

NOTES:

Approximately 1 foot of extra tubing coiled inside surface casing

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2 IN. FROM 0 TO 11.5 FT.
____ IN. FROM ____ TO ____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

WELL CONSTRUCTION LOG

RMT

WELL NO. SG-16

Page 1 of 1

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Former Tecumseh Products Company	9/17/10	9/17/10	8070.13

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe, Inc.	Direct Push	---	---	8.5	2

Boring Location: In ROW on east side of Ottawa Street, 115 feet north of Patterson Street

Personnel
Logged By - Stacy Metz
Driller - Craig Tanicala

Drilling Equipment: Geoprobe Advance 66

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	MI

Water Level Observations:
While Drilling: Date/Time — Depth (ft bgs) NM
After Drilling: Date/Time — Depth (ft bgs) NM

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	COMMENTS
1 HA	100		0	**TOPSOIL**				
2 GP	100		2	**CLAYEY SAND WITH GRAVEL** mostly fine to coarse sand, little clay, little coarse gravel, trace to few cobbles, slightly plastic, dark yellowish brown (10YR 3/4), no odor, moist, very dense.	SC			
				WELL GRADED SAND WITH GRAVEL mostly fine to coarse sand, some fine to coarse subrounded to subangular gravel, dark yellowish brown (10YR 3/6), no odor, dry, loose to medium dense.				
3 GP	96		4	Same as above.	SW			
			6					
			8	**FILL** bentonite chips, dry.				
				End of boring at 8.5 feet below ground surface.				
			10					
			12					
			14					

SOIL BORING WELL CONSTRUCTION LOG 8070.12 2010.GPJ RMT_CORP.GDT 8070.13 1/12/11

Signature:

Checked By: John Bacon

Firm: RMT, Inc.
3754 Ranchero Drive Ann Arbor, MI 48108
734-971-7080
Fax 734-971-9022

RMT WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Off-Site Soil Gas Investigation			WELL ID:	SG-16
PROJ. NO:	8070.13	DATE INSTALLED:	9/17/2010	INSTALLED BY: Stacy Metz	CHECKED BY: John Bacon

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
	0.0	GROUND SURFACE
	0.0	TOP OF CASING
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.50		RISER PIPE LENGTH
	--	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	6.5	BENTONITE SEAL
	7.5	TOP OF SCREEN
0.50		SCREEN LENGTH
		FILTER PACK MATERIAL: GLASS BEADS
	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
	8.5	HOLE BOTTOM

NOTES:

Approximately 1 foot of extra tubing coiled inside surface casing

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4-INCH TEFLON TUBING

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 1/4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 2-PLY WIRE MESH

BOREHOLE DIAMETER: 2 IN. FROM 0 TO 8.5 FT.
____ IN. FROM ____ TO ____ FT.

SURF. CASING DIAMETER: 4 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER INSTALLED? ☑ YES ☐ NO

LOCK KEY NUMBER: NA

REVISED 03/2008

US EPA ARCHIVE DOCUMENT

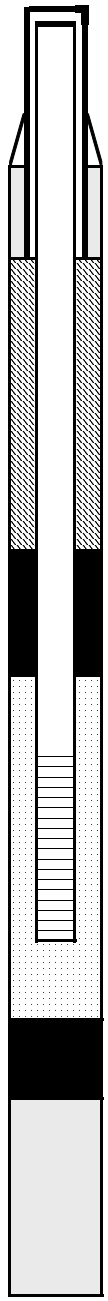
Methane Vent Locations

Vent construction forms are attached for each of the 15 methane vents installed in October 2011.

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation		WELL ID:	**V-01**
PROJ. NO:	2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon		CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 20 ft south of north end of PRB.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
____ IN. FROM ____ TO ____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

REVISED 06/2011

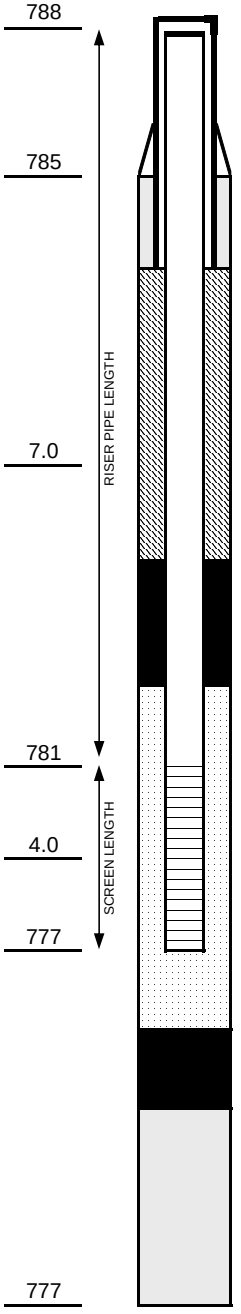
US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-02**
PROJ. NO:	2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-01.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

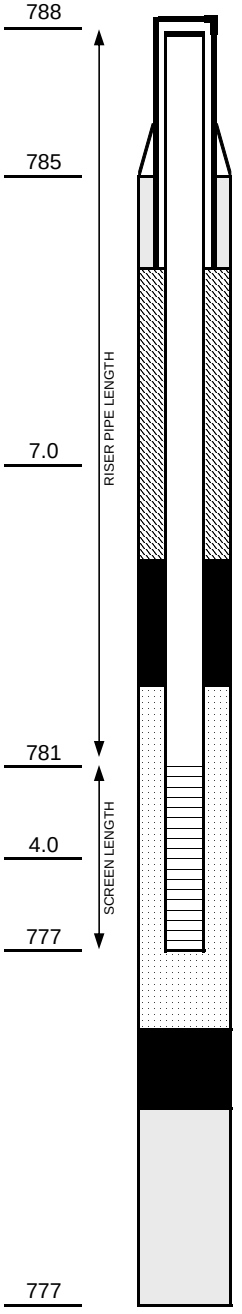
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - Passive Vent Installation		WELL ID:	**V-03**
PROJ. NO: 2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-02.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

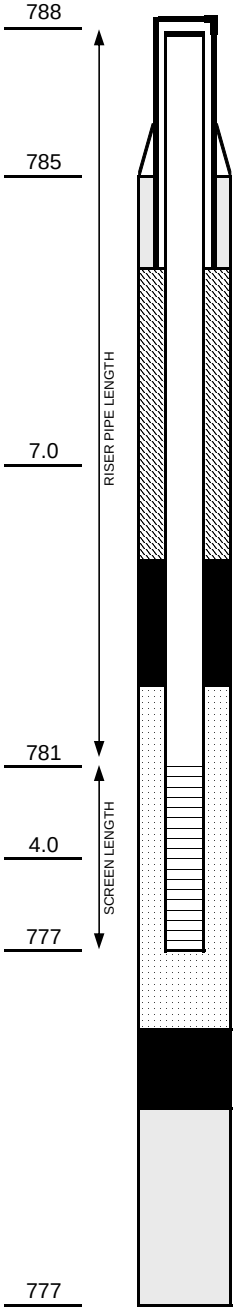
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-04**
PROJ. NO:	2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 40 ft south of V-03 and 60 ft north of V-05 so the entry gate is not obstructed.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER:	4.25	IN. FROM	0	TO	8	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	12	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

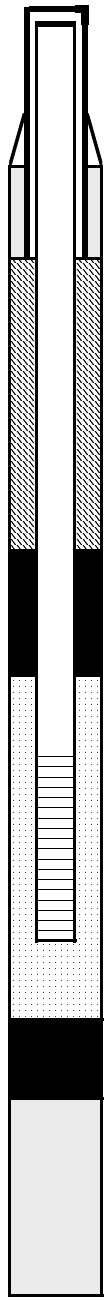
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-05**
PROJ. NO:	2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 60 ft south of V-04.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

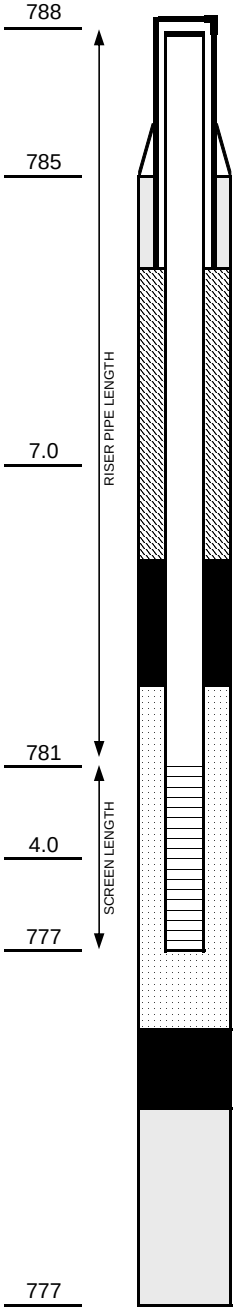
LOCK KEY NUMBER: NA

REVISED 06/2011

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - Passive Vent Installation		WELL ID:	**V-06**
PROJ. NO: 2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon		CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-05.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
____ IN. FROM ____ TO ____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

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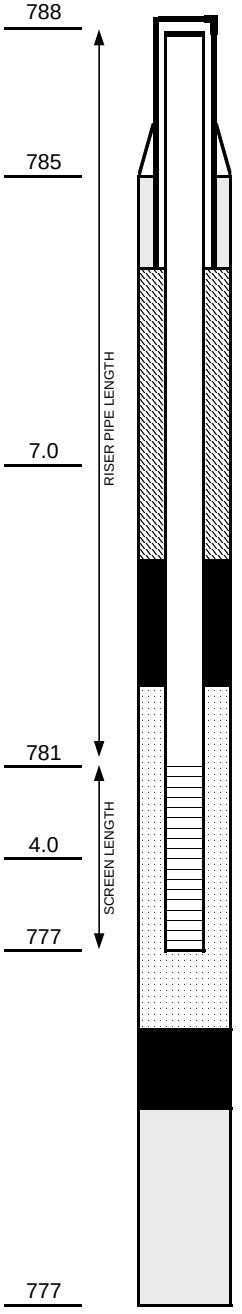
WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - Passive Vent Installation		WELL ID:	**V-07**
PROJ. NO: 2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon		CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-06.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

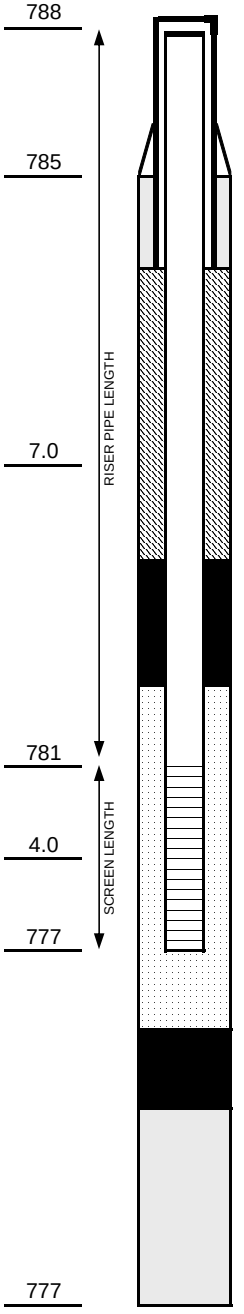
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-08**
PROJ. NO:	2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-07.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

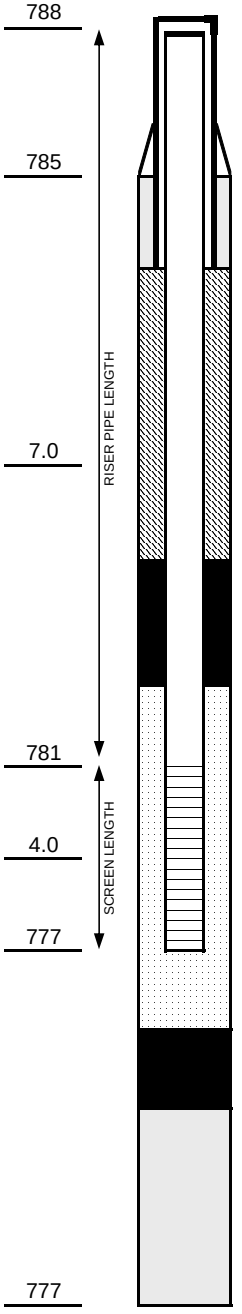
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-09**
PROJ. NO:	2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-08.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

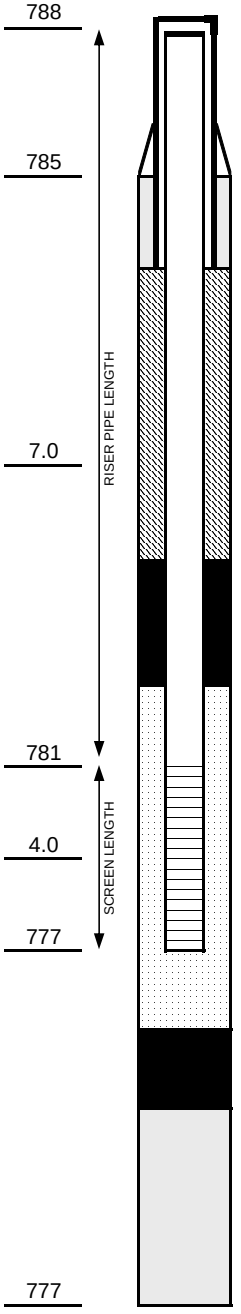
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - Passive Vent Installation		WELL ID:	**V-10**
PROJ. NO: 2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-09.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

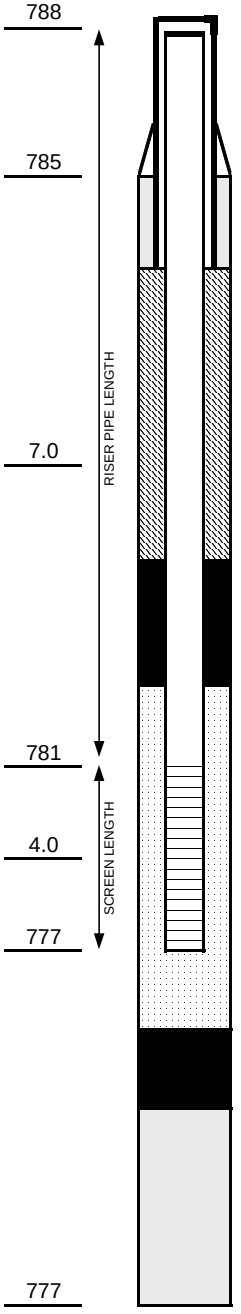
LOCK KEY NUMBER: NA

REVISED 06/2011

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: TPC - Passive Vent Installation		WELL ID:	**V-11**
PROJ. NO: 2751.16	DATE INSTALLED: 10/27/2011 INSTALLED BY: J. Bacon		CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-10.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

REVISED 06/2011

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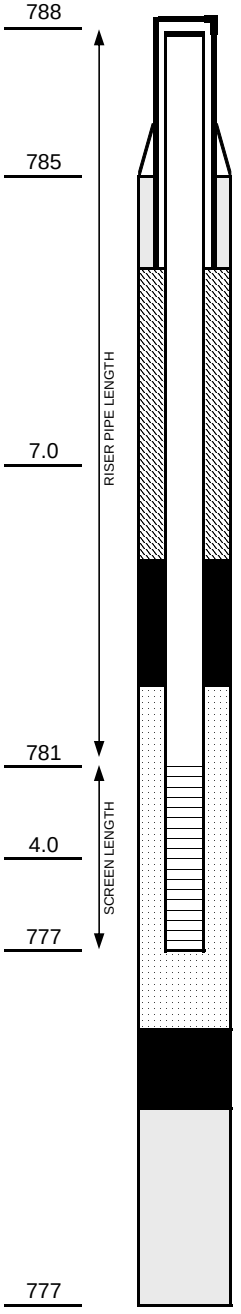
WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-12**
PROJ. NO:	2751.16	DATE INSTALLED: 10/28/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-11.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

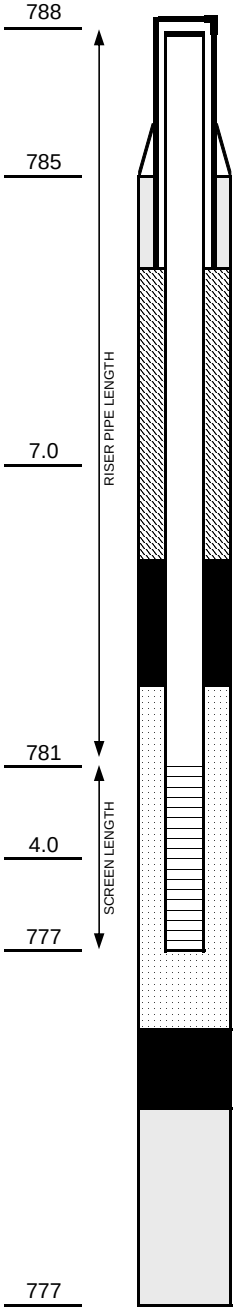
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-13**
PROJ. NO:	2751.16	DATE INSTALLED: 10/28/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-12.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

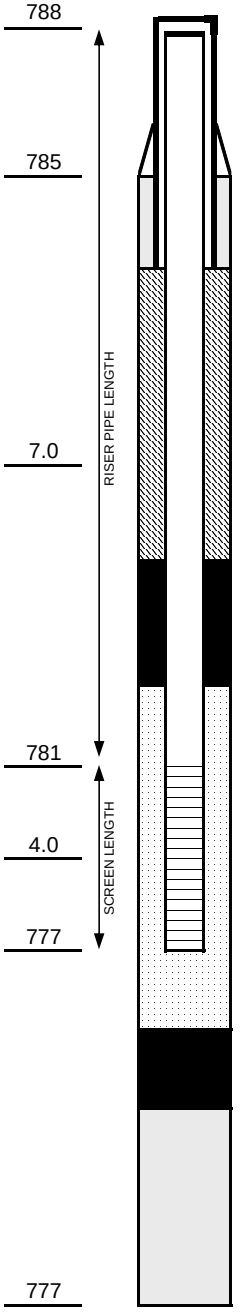
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-14**
PROJ. NO:	2751.16	DATE INSTALLED: 10/28/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-13.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

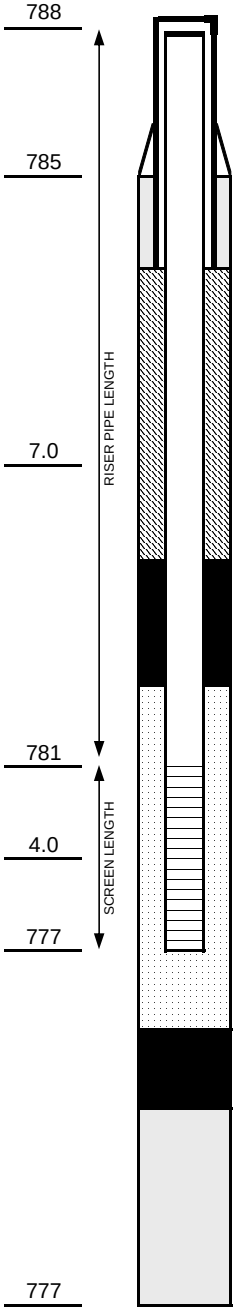
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	TPC - Passive Vent Installation	WELL ID:	**V-15**
PROJ. NO:	2751.16	DATE INSTALLED: 10/28/2011 INSTALLED BY: J. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
788	3.0	TOP OF CASING
785	0.0	GROUND SURFACE
	1.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: NA
		GROUT/BACKFILL METHOD: NA
7.0		RISER PIPE LENGTH
	1.0	GROUT
		BENTONITE SEAL MATERIAL: GRANULAR
	3.0	BENTONITE SEAL
781	4.0	TOP OF SCREEN
4.0		SCREEN LENGTH
		FILTER PACK MATERIAL: MEDIUM, WASHED SAND
777	8.0	BOTTOM OF SCREEN
	8.0	BOTTOM OF FILTER PACK
	--	BENTONITE PLUG
		BACKFILL MATERIAL: NA
777	8.0	HOLE BOTTOM



NOTES:
Ground surface elevation is approximate.

Location: 50 ft south of V-14 and 5 ft north of southern fence.

CASING AND SCREEN DETAILS

TYPE OF RISER: 3-INCH GALVANIZED STEEL

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 3-INCH PVC

SCR. SLOT SIZE: 0.01-INCH

BOREHOLE DIAMETER: 4.25 IN. FROM 0 TO 8 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: 12 IN. FROM 0 TO 1 FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD:

TIME DEVELOPING: NA HOURS

WATER REMOVED: NA GALLONS

WATER ADDED: NA GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	NA	T/PVC		
DTB AFTER DEVELOPING:	NA	T/PVC		
SWE BEFORE DEVELOPING:	NA	T/PVC		
SWE AFTER DEVELOPING:	NA	T/PVC		
OTHER SWE:		T/PVC		
OTHER SWE:		T/PVC		

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

Soil Vapor Extraction Wells and Pressure Monitoring Points

Soil boring logs for each of the 4 soil vapor extraction wells installed in late March through early April 2012 are attached. Well construction forms for the 4 soil vapor extraction wells as well as the 14 pressure monitoring points are also included.

WELL CONSTRUCTION LOG

TRC

WELL NO. SVE-01

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - SVE System	3/30/12	4/4/12	187156.0001.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe/Stearns Drilling	Direct Push/HSA	---	---	20.0	18.25

Boring Location: 28 feet east and 7 feet south of the northwest corner of P-Building

Personnel
Logged By - J.A. Bacon
Driller - Fojtik/Heffernan

Drilling Equipment:
Geoprobe 6620DT/CME LC60

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	Michigan

Water Level Observations:
While Drilling: Date/Time
After Drilling: Date/Time
▽ Depth (ft bgs) 20
Depth (ft bgs)

NUMBER AND TYPE	RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
				CONCRETE		///			Soil logged to a depth of 20 ft bgs with using Geoprobe direct push methods. Extraction well installed to a depth of 18 ft bgs using 18-inch hollow-stem augers.
				SILT	ML				
1 GP	25			**FILL** mostly fine to medium sand, slight organic odor.				34.0	
								33.8	
2 GP	50		5	**WELL-GRADED SAND WITH GRAVEL** Mostly fine to coarse sand, some gravel, trace silt, dark brown (10YR 3/3) to very dark grayish brown (10YR 3/2), slight organic odor, damp, loose.				25.8	Soil sample collected from 3 to 5 ft bgs.
3 GP	75		10	Same as above.	SW			29.0	
4 GP	75		15	Same as above.				25.2	
5 GP	90			Same as above.				26.3	
			20	▽ Change to moist.				25.3	
				Change to no odor, saturated.				26.1	
				End of boring at 20.0 feet below ground surface.				20.9	Soil sample collected from 16 to 18 ft bgs.
								21.6	

SOIL BORING WELL CONSTRUCTION LOG 187156.0001.0000_2012.GPJ TRC_CORP.GDT 187156.0001.0000 5/23/12

Signature:

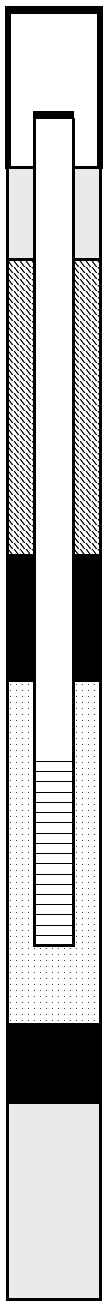
Firm: TRC Environmental Corporation
1540 Eisenhower Place Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**SVE-01**
PROJ. NO:	187156.00	DATE INSTALLED: 4/4/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
799.9	0.0 GROUND SURFACE
799.4	0.5 TOP OF CASING
798.9	2.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
7.5	RISER PIPE LENGTH
	5.2 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	6.9 BENTONITE SEAL
791.9	8.0 TOP OF SCREEN
10.0	SCREEN LENGTH
	FILTER PACK MATERIAL: PEA GRAVEL
781.9	18.0 BOTTOM OF SCREEN
	18.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
779.9	20.0 HOLE BOTTOM



NOTES:

Ground elevation taken from survey data for monitoring well MW-33s which is also located in P-Building.

CASING AND SCREEN DETAILS

TYPE OF RISER: 4-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 30-Slot

BOREHOLE DIAMETER:	18	IN. FROM	0	TO	18	FT.
	2.25	IN. FROM	18	TO	20	FT.
SURF. CASING DIAMETER:	18	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

WELL CONSTRUCTION LOG

WELL NO. SVE-02

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - SVE System	3/30/12	4/5/12	187156.0001.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe/Stearns Drilling	Direct Push/HSA	---	---	20.0	18.25

Boring Location: 119 feet east and 7.5 feet south of the northwest corner of P-Building

Personnel
Logged By - J.A. Bacon
Driller - Fojtik/Heffernan

Drilling Equipment: Geoprobe 6620DT/CME LC60

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	Michigan

Water Level Observations:
While Drilling: Date/Time
After Drilling: Date/Time
▽ Depth (ft bgs) 20
Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			0	**CONCRETE**				10.0	Soil logged to a depth of 20 ft bgs with using Geoprobe direct push methods. Extraction well installed to a depth of 18 ft bgs using 18-inch hollow-stem augers.
1 GP	50			**FILL** mostly fine to medium sand, trace silt, trace clay, brown (10YR 4/3), slight organic odor, damp, loose.				21.5	
				ASPHALT or asphalt-like material.				25.3	
				FILL mostly fine to medium sand, trace silt, trace clay, brown (10YR 4/3), slight organic odor, damp, loose.				26.3	
2 GP	0		5						No recovery on direct push sample due to obstruction. Soil sample collected from 4 to 6 ft bgs.
3 GP	25		10	**WELL-GRADED SAND WITH GRAVEL** Mostly fine to coarse sand, some gravel, trace silt, dark brown (10YR 3/3) to very dark grayish brown (10YR 3/2), slight organic odor, damp, loose.	SW			10.3	
								11.6	
								16.1	
								16.6	
4 GP	75		15	Same as above.				5.7	
								6.3	
								12.4	
								13.4	
5 GP	75			Same as above.				34.9	
								34.7	Soil sample collected from 16 to 18 ft bgs.
								34.5	
			20	▽ Change to no odor, saturated.				21.9	
				End of boring at 20.0 feet below ground surface.					

SOIL BORING WELL CONSTRUCTION LOG 187156.0001.0000_2012.GPJ TRC_CORP.GDT 187156.0001.0000 5/23/12

Signature:

Firm: TRC Environmental Corporation
1540 Eisenhower Place Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**SVE-02**
PROJ. NO:	187156.00	DATE INSTALLED: 4/5/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
799.9	0.0 GROUND SURFACE
799.4	0.5 TOP OF CASING
798.9	2.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
7.5	5.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	6.8 BENTONITE SEAL
791.9	8.0 TOP OF SCREEN
	FILTER PACK MATERIAL: PEA GRAVEL
10.0	
781.9	18.0 BOTTOM OF SCREEN
	18.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
779.9	20.0 HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

Ground elevation taken from survey data for monitoring well MW-33s which is also located in P-Building.

CASING AND SCREEN DETAILS

TYPE OF RISER: 4-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 30-Slot

BOREHOLE DIAMETER: 18 IN. FROM 0 TO 18 FT.
2.25 IN. FROM 18 TO 20 FT.

SURF. CASING DIAMETER: 18 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION LOG

WELL NO. SVE-03

Facility/Project Name	Date Drilling Started	Date Drilling Completed	Project Number
Tecumseh Products Company - SVE System	3/30/12	4/4/12	187156.0001.0000

Drilling Firm	Drilling Method	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe/Stearns Drilling	Direct Push/HSA	---	---	24.0	18.25

Boring Location: 99 feet west and 14 feet south of the northeast corner of P-Building

Personnel
Logged By - J.A. Bacon
Driller - Fojtik/Heffernan

Drilling Equipment: Geoprobe 6620DT/CME LC60

Civil Town/City/or Village	County	State
Tecumseh	Lenawee	Michigan

Water Level Observations:
While Drilling: Date/Time
After Drilling: Date/Time
▽ Depth (ft bgs) 20.2
Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			0	**CONCRETE**		///		4.3	Soil logged to a depth of 24 ft bgs with using Geoprobe direct push methods. Extraction well installed to a depth of 18 ft bgs using 18-inch hollow-stem augers.
1 GP	50			**FILL** mostly fine to medium sand, trace silt, trace clay, brown (10YR 5/3), slight organic odor, dry to damp, loose.				9.7	
								17.6	
				ASPHALT or asphalt-like material.				18.7	
				SANDY SILT mostly silt, little sand, little clay, cohesive, low plasticity, dark brown (7.5YR 3/4), damp.	ML			20.3	
2 GP	25		5	**WELL-GRADED SAND WITH GRAVEL** Mostly fine to coarse sand, some gravel, trace silt, dark brown (10YR 3/3) to very dark grayish brown (10YR 3/2), slight organic odor, damp, loose.				19.8	Soil sample collected from 4 to 6 ft bgs.
								19.5	
				Same as above.				20.9	
3 GP	60		10					20.3	
								21.7	
								32.2	
				Same as above.				35.1	
4 GP	75				SW			38.7	
			15					27.2	
								23.4	
				Same as above.				23.1	
5 GP	75							19.5	
								22.3	Soil sample collected from 16 to 18 ft bgs.
			20	▽ Change to no odor, saturated at 20.2 feet.				23.3	
6 GP	90							21.6	
				End of boring at 24.0 feet below ground surface.					

SOIL BORING WELL CONSTRUCTION LOG 187156.0001.0000 2012.GPJ TRC_CORP.GDT 187156.0001.0000 5/23/12

Signature:

Firm: TRC Environmental Corporation
1540 Eisenhower Place Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**SVE-03**
PROJ. NO:	187156.00	DATE INSTALLED: 4/4/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
799.9	0.0 GROUND SURFACE
799.4	0.5 TOP OF CASING
798.9	2.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
7.5	RISER PIPE LENGTH
	5.0 GROUT
	BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	6.8 BENTONITE SEAL
791.9	8.0 TOP OF SCREEN
10.0	SCREEN LENGTH
	FILTER PACK MATERIAL: PEA GRAVEL
781.9	18.0 BOTTOM OF SCREEN
	18.0 BOTTOM OF FILTER PACK
	NA BENTONITE PLUG
	BACKFILL MATERIAL: NATURAL COLLAPSE
775.9	24.0 HOLE BOTTOM

NOTES:

Ground elevation taken from survey data for monitoring well MW-33s which is also located in P-Building.

CASING AND SCREEN DETAILS

TYPE OF RISER: 4-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 30-Slot

BOREHOLE DIAMETER: 18 IN. FROM 0 TO 18 FT.
2.25 IN. FROM 18 TO 24 FT.

SURF. CASING DIAMETER: 18 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

WELL CONSTRUCTION LOG

TRC

WELL NO. SVE-04

Facility/Project Name:	Date Drilling Started:	Date Drilling Completed:	Project Number:
Tecumseh Products Company - SVE System	3/30/12	4/3/12	187156.0001.0000

Drilling Firm:	Drilling Method:	Surface Elev. (ft)	TOC Elevation (ft)	Total Depth (ft bgs)	Borehole Dia. (in)
Terra Probe/Stearns Drilling	Direct Push/HSA	---	---	24.0	18.25

Boring Location: 8 feet west and 7 feet south of the northeast corner of P-Building

Personnel
Logged By - J.A. Bacon
Driller - Fojtik/Heffernan

Drilling Equipment: Geoprobe 6620DT/CME LC60

Civil Town/City/or Village:	County:	State:
Tecumseh	Lenawee	Michigan

Water Level Observations:
While Drilling: Date/Time
After Drilling: Date/Time
▽ Depth (ft bgs) 20
Depth (ft bgs)

SAMPLE NUMBER AND TYPE	SAMPLE RECOVERY (%)	BLOW COUNTS	DEPTH IN FEET	LITHOLOGIC DESCRIPTION	USCS	GRAPHIC LOG	WELL DIAGRAM	PID (PPM)	COMMENTS
			0	**CONCRETE**		///		41.7	Soil logged to a depth of 24 ft bgs with using Geoprobe direct push methods. Extraction well installed to a depth of 18 ft bgs using 18-inch hollow-stem augers.
1 GP	35			**FILL** mostly fine to medium sand, trace silt, trace clay, brown (10YR 5/3), moderate organic odor, dry to damp, loose.				53.2	
				Black staining at approximately 4 feet.				59.5	
								62.1	
2 GP	25		5	**SANDY SILT** mostly silt, little sand, little clay, cohesive, low plasticity, dark brown (7.5YR 3/4), damp.	ML			16.9	Soil sample collected from 4 to 6 ft bgs.
								11.6	
								8.3	
3 GP	55		10	**WELL-GRADED SAND WITH GRAVEL** Mostly fine to coarse sand, some gravel, trace silt, dark brown (10YR 3/3) to very dark grayish brown (10YR 3/2), organic odor, damp, loose.	SW			13.6	
								24.6	
				Same as above.				15.6	
								23.6	
4 GP	60							20.4	
								32.2	
			15					41.6	
								42.8	
				Same as above.				36.9	
5 GP	50							37.4	Soil sample collected from 16 to 18 ft bgs.
								36.5	
								36.8	
6 GP	50		20	▽ Change to moist. Change to no odor, saturated.				37.4	
				End of boring at 24.0 feet below ground surface.					

SOIL BORING WELL CONSTRUCTION LOG 187156.0001.0000_2012.GPJ TRC_CORP.GDT 187156.0001.0000 5/23/12

Signature:

Firm: TRC Environmental Corporation
1540 Eisenhower Place Ann Arbor, MI 48108
(734) 971-7080
Fax (734) 971-9022

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company - SVE System			WELL ID: **SVE-04**
PROJ. NO: 187156.00	DATE INSTALLED: 4/3/2012	INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)	
799.9	0.0	GROUND SURFACE
799.4	0.5	TOP OF CASING
798.9	2.0	CEMENT SURFACE PLUG
		GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
		GROUT/BACKFILL METHOD: FILL FROM ABOVE
7.5	5.0	GROUT
		BENTONITE SEAL MATERIAL: MEDIUM CHIPS
	7.0	BENTONITE SEAL
791.9	8.0	TOP OF SCREEN
		FILTER PACK MATERIAL: PEA GRAVEL
10.0		
781.9	18.0	BOTTOM OF SCREEN
	18.0	BOTTOM OF FILTER PACK
	NA	BENTONITE PLUG
		BACKFILL MATERIAL: NATURAL COLLAPSE
775.9	24.0	HOLE BOTTOM

RISER PIPE LENGTH

SCREEN LENGTH

NOTES:

Ground elevation taken from survey data for monitoring well MW-33s which is also located in P-Building.

CASING AND SCREEN DETAILS

TYPE OF RISER: 4-INCH PVC

PIPE SCHEDULE: 40

PIPE JOINTS: THREADED O-RINGS

SOLVENT USED? NO

SCREEN TYPE: 4-INCH STAINLESS STEEL

SCR. SLOT SIZE: 30-Slot

BOREHOLE DIAMETER: 18 IN. FROM 0 TO 18 FT.
2.25 IN. FROM 18 TO 24 FT.

SURF. CASING DIAMETER: 18 IN. FROM 0 TO 1 FT.
____ IN. FROM ____ TO ____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☑ YES ☐ NO

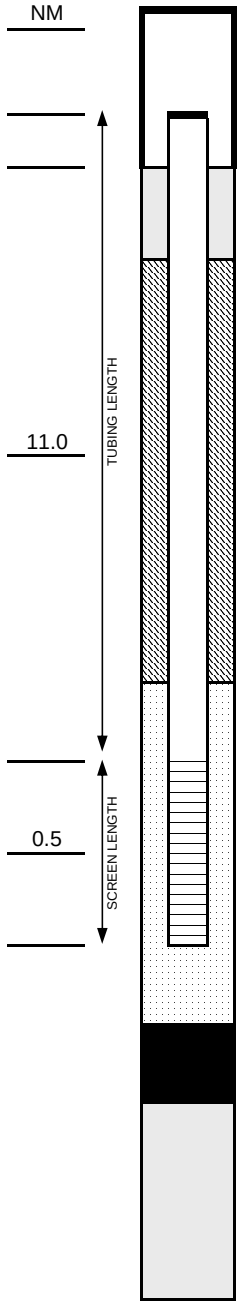
PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-01s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-01s and TVP-01d installed in same borehole. TVP-01s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points in ROW protected with flush-mount cover.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" Teflon-Lined HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	12	IN. FROM	0	TO	1	FT.
	2.25	IN. FROM	1	TO	16	FT.
SURF. CASING DIAMETER:	7	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

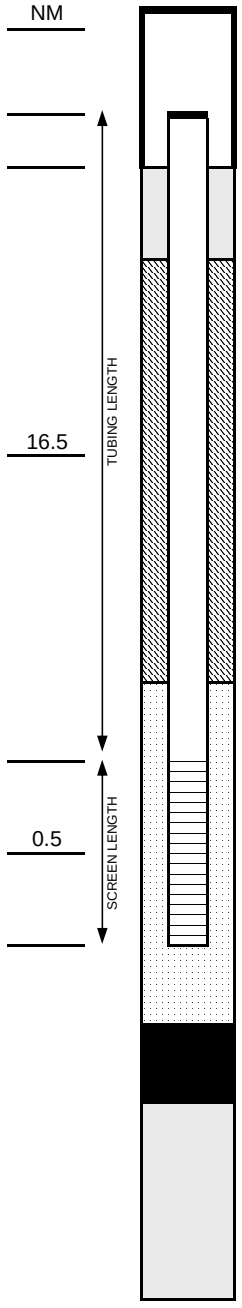
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-01d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM



NOTES:

TVP-01s and TVP-01d installed in same borehole. TVP-01d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points in ROW protected with flush-mount cover.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" Teflon-Lined HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	12	IN. FROM	0	TO	1	FT.
	2.25	IN. FROM	1	TO	16	FT.
SURF. CASING DIAMETER:	7	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

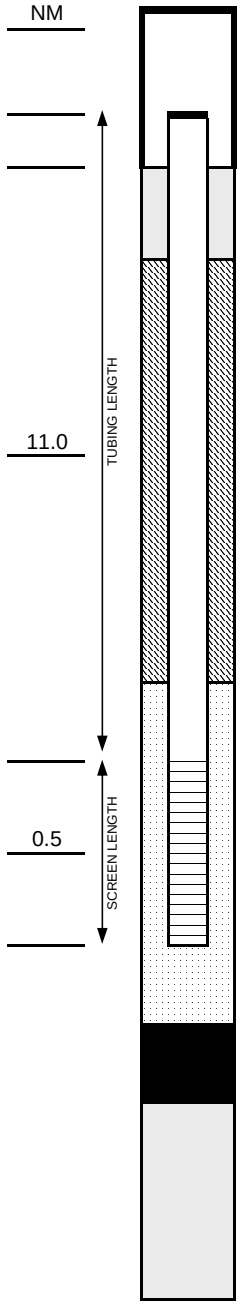
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-02s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-02s and TVP-02d installed in same borehole. TVP-02s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points in ROW protected with flush-mount cover.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" Teflon-Lined HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	12	IN. FROM	0	TO	1	FT.
	2.25	IN. FROM	1	TO	16	FT.
SURF. CASING DIAMETER:	7	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

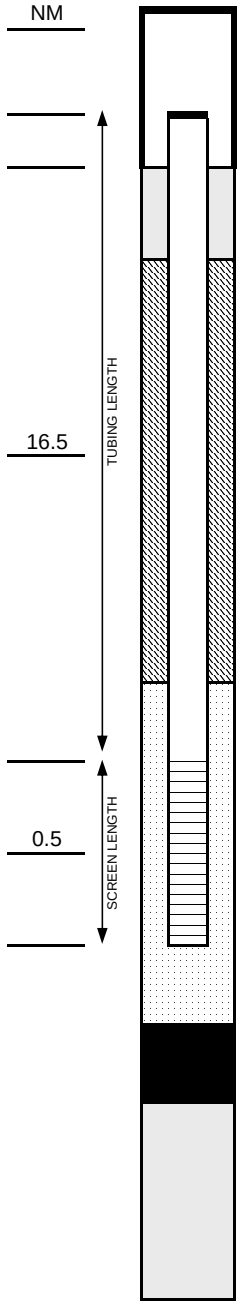
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-02d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF CASING
	1.0 CEMENT SURFACE PLUG
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM



NOTES:

TVP-02s and TVP-02d installed in same borehole. TVP-02d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points in ROW protected with flush-mount cover.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" Teflon-Lined HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	12	IN. FROM	0	TO	1	FT.
	2.25	IN. FROM	1	TO	16	FT.
SURF. CASING DIAMETER:	7	IN. FROM	0	TO	1	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

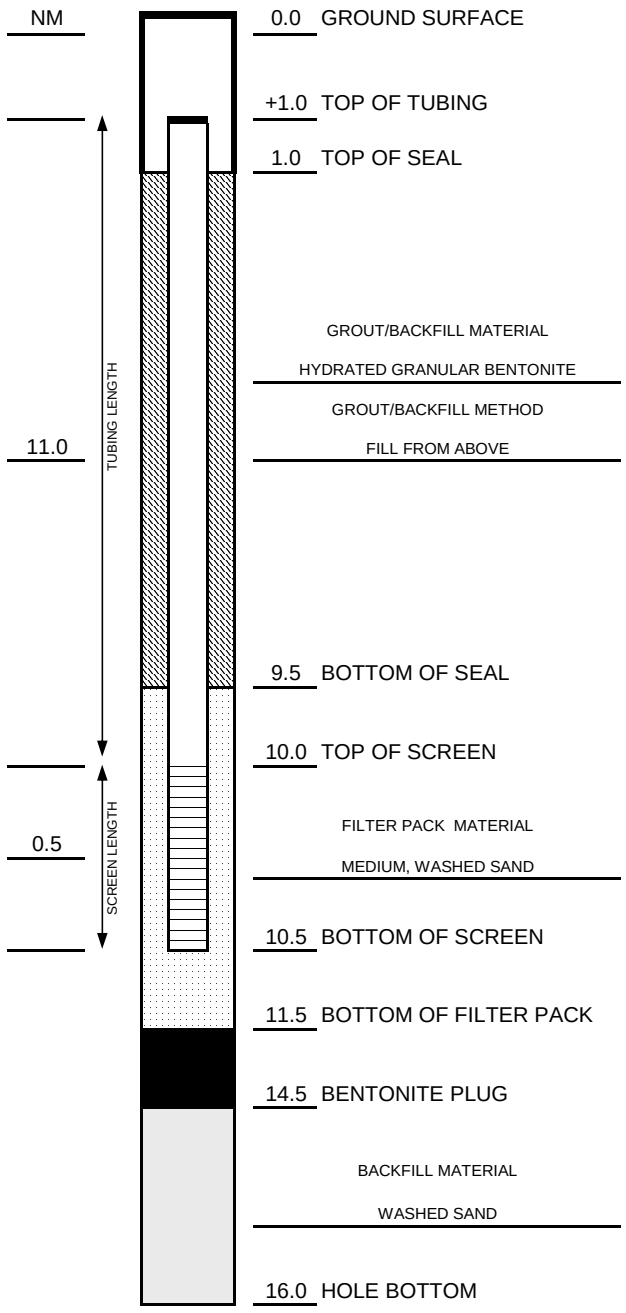
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-03s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



NOTES:

TVP-03s and TVP-03d installed in same borehole. TVP-03s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

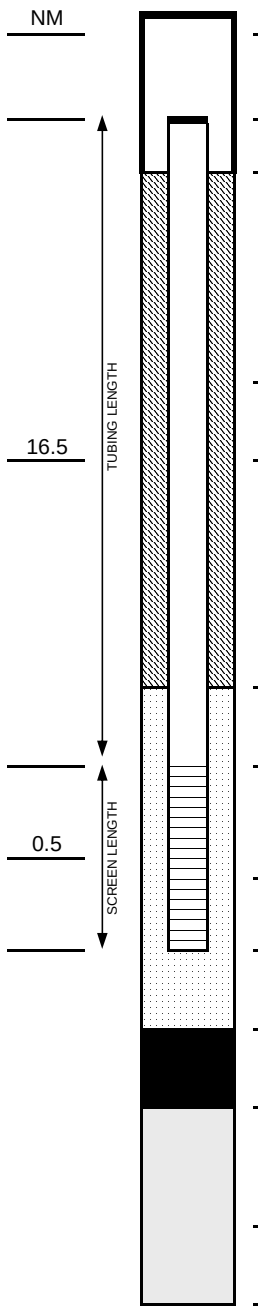
REVISED 06/2011

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-03d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	
	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	
	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

NOTES:

TVP-03s and TVP-03d installed in same borehole. TVP-03d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

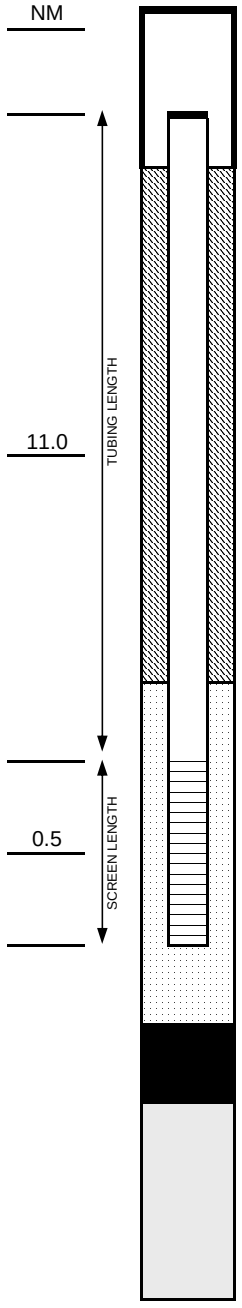
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company - SVE System		WELL ID:	**TVP-04s**
PROJ. NO: 187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-04s and TVP-04d installed in same borehole. TVP-04s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

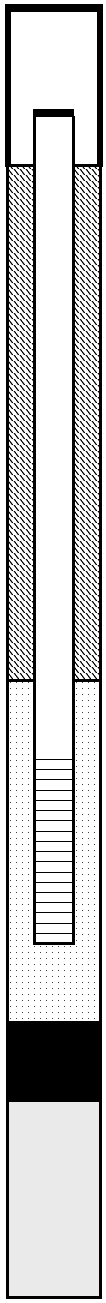
WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-04d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

TUBING LENGTH

SCREEN LENGTH



NOTES:

TVP-04s and TVP-04d installed in same borehole. TVP-04d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.

_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.

_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

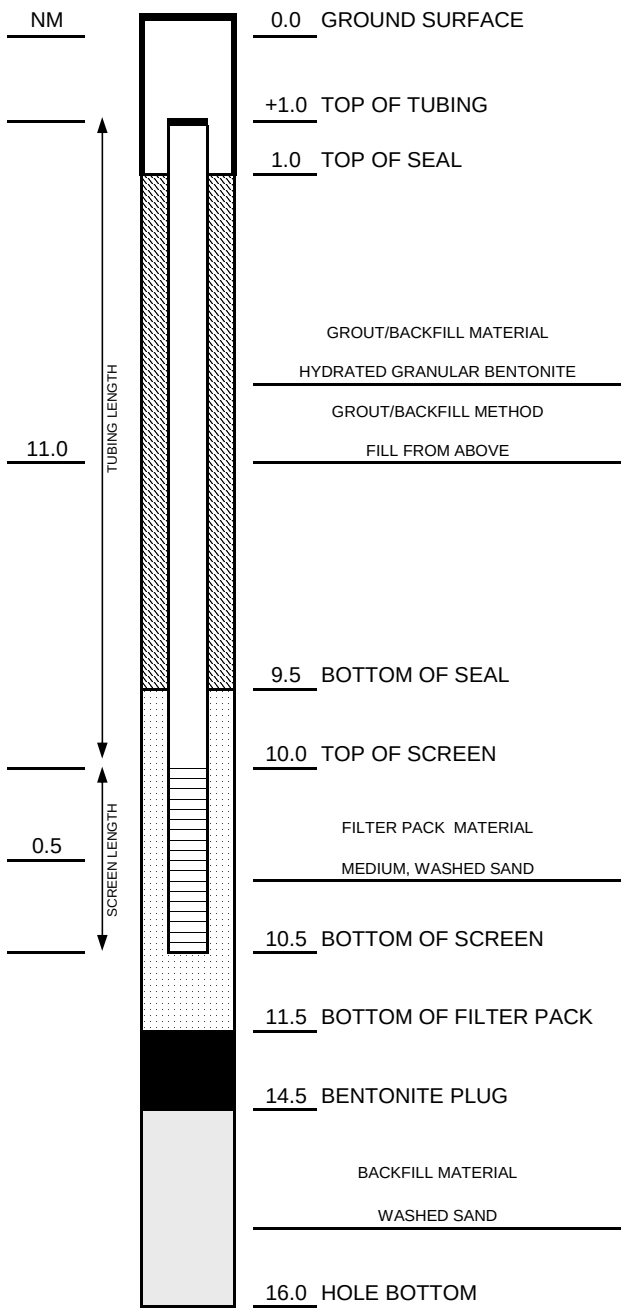
US EPA ARCHIVE DOCUMENT

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-05s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0 GROUND SURFACE

+1.0 TOP OF TUBING

1.0 TOP OF SEAL

GROUT/BACKFILL MATERIAL

HYDRATED GRANULAR BENTONITE

GROUT/BACKFILL METHOD

FILL FROM ABOVE

9.5 BOTTOM OF SEAL

10.0 TOP OF SCREEN

FILTER PACK MATERIAL

MEDIUM, WASHED SAND

10.5 BOTTOM OF SCREEN

11.5 BOTTOM OF FILTER PACK

14.5 BENTONITE PLUG

BACKFILL MATERIAL

WASHED SAND

16.0 HOLE BOTTOM

NOTES:

TVP-05s and TVP-05d installed in same borehole. TVP-05s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

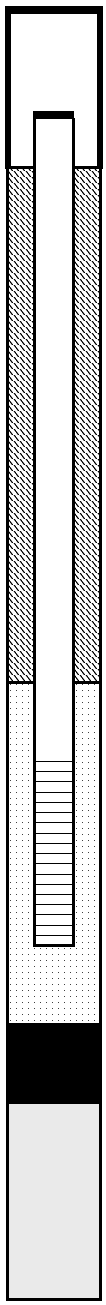
PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

WELL CONSTRUCTION DIAGRAM

PROJ. NAME: Tecumseh Products Company - SVE System		WELL ID:	**TVP-05d**
PROJ. NO: 187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY:	S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	TUBING LENGTH
	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
0.5	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM



NOTES:

TVP-05s and TVP-05d installed in same borehole. TVP-05d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

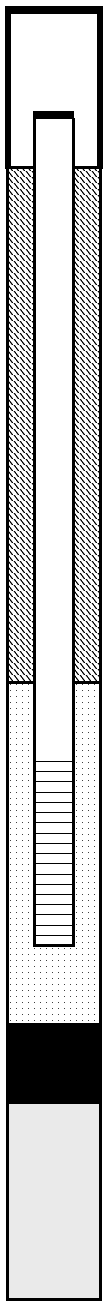
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-06s**
PROJ. NO:	187156.00	DATE INSTALLED: 3/30/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	TUBING LENGTH
	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
0.5	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-06s and TVP-06d installed in same borehole. TVP-06s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

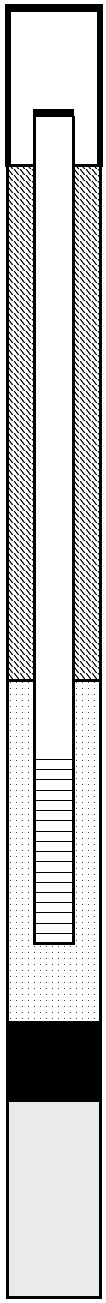
WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-06d**
PROJ. NO:	187156.00	DATE INSTALLED: 3/30/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

TUBING LENGTH

SCREEN LENGTH



NOTES:

TVP-06s and TVP-06d installed in same borehole. TVP-06d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

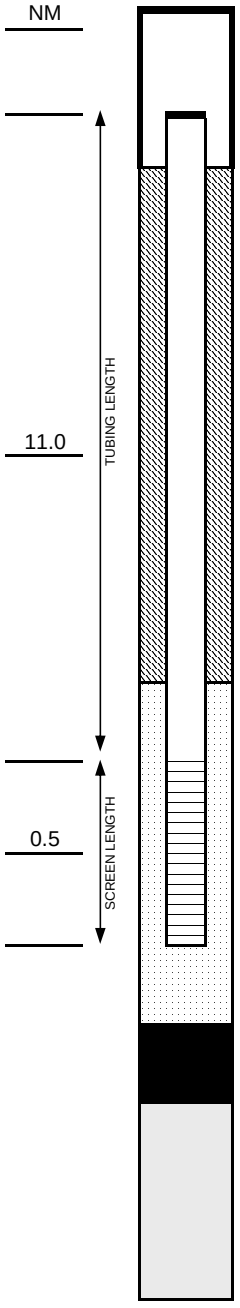
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-07s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-07s and TVP-07d installed in same borehole. TVP-07s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-07d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

TUBING LENGTH

SCREEN LENGTH

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.

_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.

_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

NOTES:

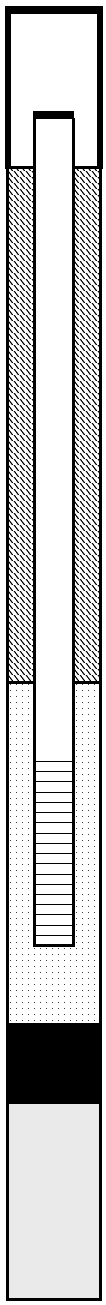
TVP-07s and TVP-07d installed in same borehole. TVP-07d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-08s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-08s and TVP-08d installed in same borehole. TVP-08s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

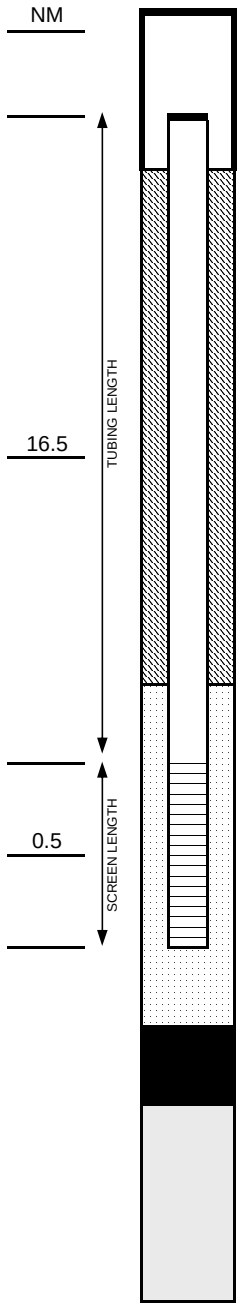
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-08d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	
	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	
	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

NOTES:

TVP-08s and TVP-08d installed in same borehole. TVP-08d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

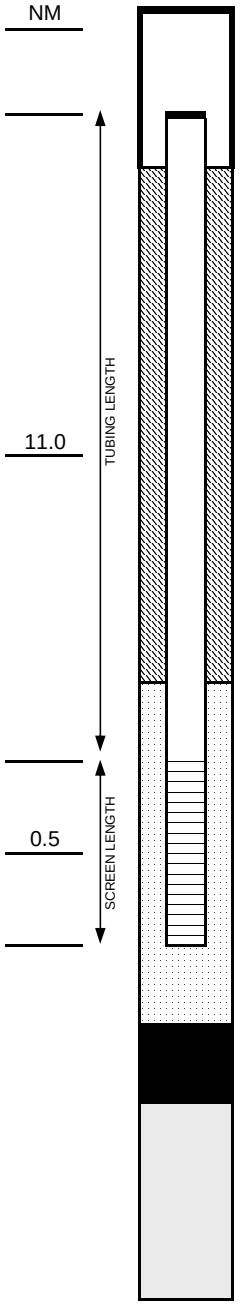
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-09s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-09s and TVP-09d installed in same borehole. TVP-09s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

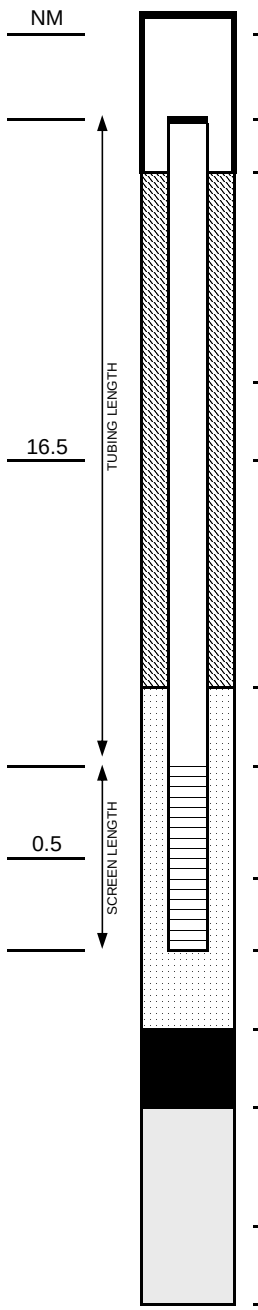
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-09d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	
	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	
	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

NOTES:

TVP-09s and TVP-09d installed in same borehole. TVP-09d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

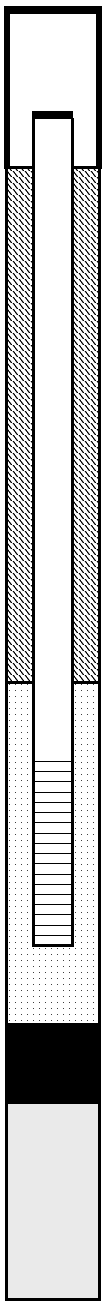
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-10s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	TUBING LENGTH
	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
0.5	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-10s and TVP-10d installed in same borehole. TVP-10s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-10d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

TUBING LENGTH

SCREEN LENGTH

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.

_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.

_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

NOTES:

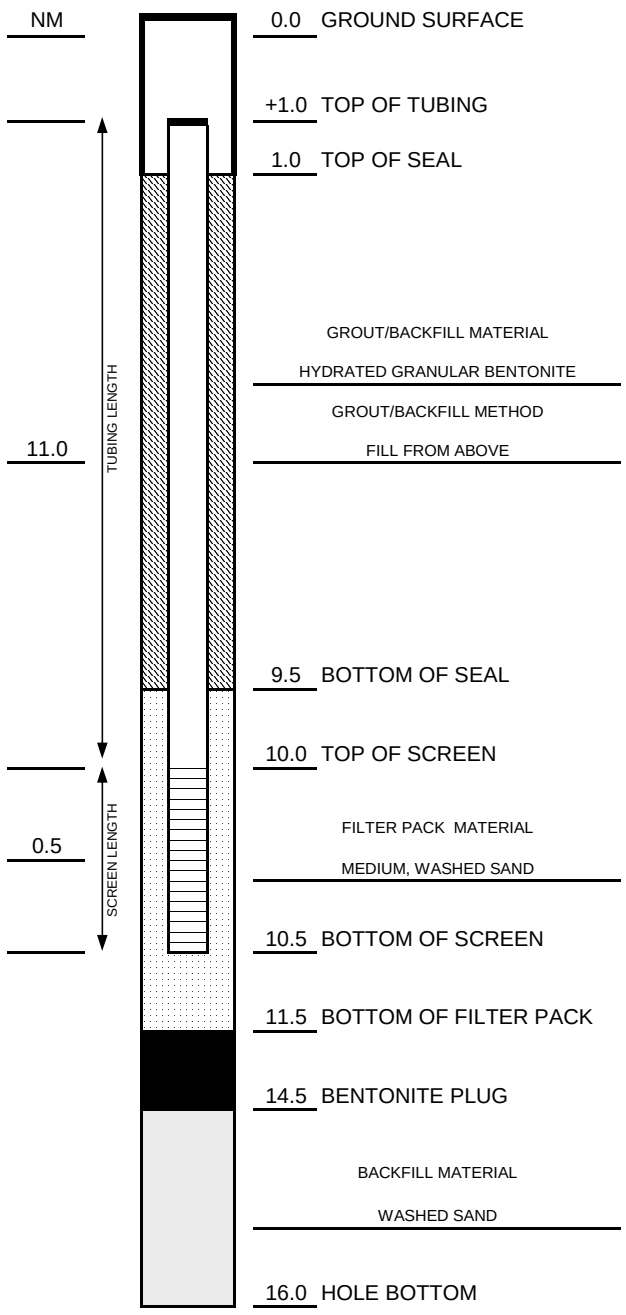
TVP-10s and TVP-10d installed in same borehole. TVP-10d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-11s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)



0.0	GROUND SURFACE
+1.0	TOP OF TUBING
1.0	TOP OF SEAL
	GROUT/BACKFILL MATERIAL
	HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD
	FILL FROM ABOVE
9.5	BOTTOM OF SEAL
10.0	TOP OF SCREEN
	FILTER PACK MATERIAL
	MEDIUM, WASHED SAND
10.5	BOTTOM OF SCREEN
11.5	BOTTOM OF FILTER PACK
14.5	BENTONITE PLUG
	BACKFILL MATERIAL
	WASHED SAND
16.0	HOLE BOTTOM

NOTES:

TVP-11s and TVP-11d installed in same borehole. TVP-11s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-11d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/9/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

TUBING LENGTH

SCREEN LENGTH

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.

_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.

_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

NOTES:

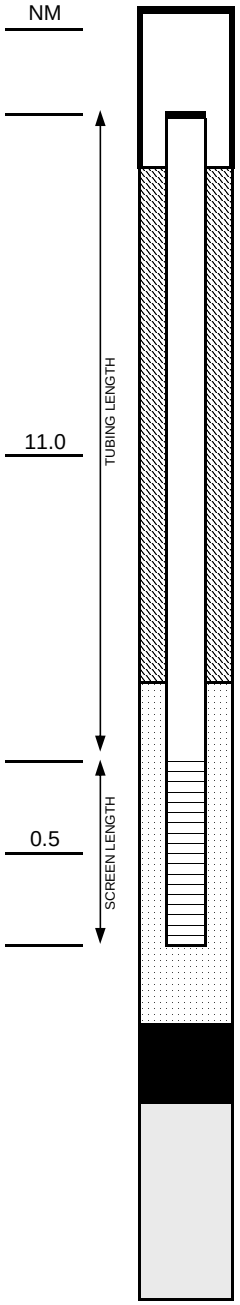
TVP-11s and TVP-11d installed in same borehole. TVP-11d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-12s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-12s and TVP-12d installed in same borehole. TVP-12s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.
_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.
_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-12d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

TUBING LENGTH

SCREEN LENGTH

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

NOTES:

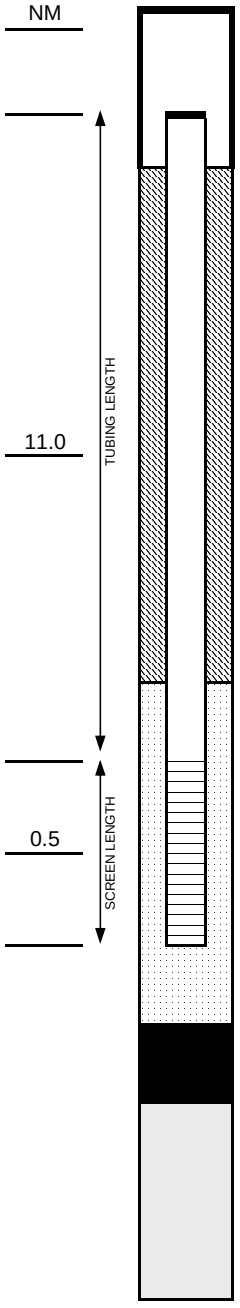
TVP-12s and TVP-12d installed in same borehole. TVP-12d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-13s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-13s and TVP-13d installed in same borehole. TVP-13s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.

_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.

_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

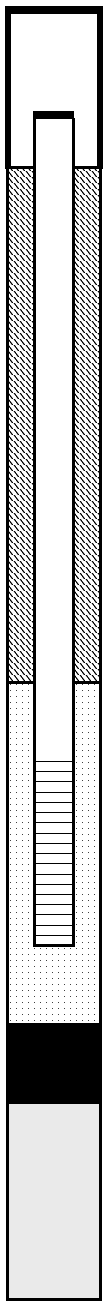
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-13d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	TUBING LENGTH
	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
0.5	SCREEN LENGTH
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM



NOTES:

TVP-13s and TVP-13d installed in same borehole. TVP-13d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER: 2.25 IN. FROM 0 TO 16 FT.

_____ IN. FROM _____ TO _____ FT.

SURF. CASING DIAMETER: NA IN. FROM -- TO -- FT.

_____ IN. FROM _____ TO _____ FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

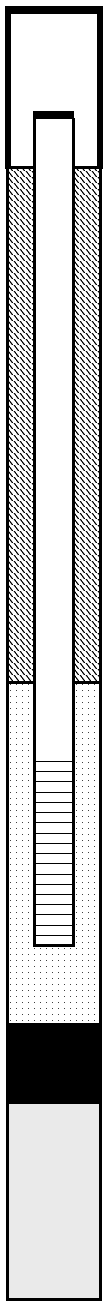
LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-14s**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
11.0	9.5 BOTTOM OF SEAL
	10.0 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	10.5 BOTTOM OF SCREEN
	11.5 BOTTOM OF FILTER PACK
	14.5 BENTONITE PLUG
	BACKFILL MATERIAL: WASHED SAND
	16.0 HOLE BOTTOM



NOTES:

TVP-14s and TVP-14d installed in same borehole. TVP-14s designated with yellow tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

US EPA ARCHIVE DOCUMENT

WELL CONSTRUCTION DIAGRAM

PROJ. NAME:	Tecumseh Products Company - SVE System	WELL ID:	**TVP-14d**
PROJ. NO:	187156.00	DATE INSTALLED: 4/10/2012 INSTALLED BY: John A. Bacon	CHECKED BY: S. Metz

ELEVATION (BENCHMARK: USGS)	DEPTH BELOW OR ABOVE GROUND SURFACE (FEET)
NM	0.0 GROUND SURFACE
	+1.0 TOP OF TUBING
	1.0 TOP OF SEAL
	GROUT/BACKFILL MATERIAL: HYDRATED GRANULAR BENTONITE
	GROUT/BACKFILL METHOD: FILL FROM ABOVE
16.5	15.0 BOTTOM OF SEAL
	15.5 TOP OF SCREEN
	FILTER PACK MATERIAL: MEDIUM, WASHED SAND
0.5	16.0 BOTTOM OF SCREEN
	16.0 BOTTOM OF FILTER PACK
	-- BENTONITE PLUG
	BACKFILL MATERIAL: NA
	16.0 HOLE BOTTOM

TUBING LENGTH

SCREEN LENGTH

CASING AND SCREEN DETAILS

TYPE OF RISER: 1/4" HDPE Tubing

PIPE SCHEDULE: NA

PIPE JOINTS: NA

SOLVENT USED? NO

SCREEN TYPE: 6" Geoprobe Vapor Implant (304 SS)

SCR. SLOT SIZE: Wire Mesh

BOREHOLE DIAMETER:	2.25	IN. FROM	0	TO	16	FT.
		IN. FROM		TO		FT.
SURF. CASING DIAMETER:	NA	IN. FROM	--	TO	--	FT.
		IN. FROM		TO		FT.

WELL DEVELOPMENT

DEVELOPMENT METHOD: NA

TIME DEVELOPING: -- HOURS

WATER REMOVED: -- GALLONS

WATER ADDED: -- GALLONS

WATER CLARITY BEFORE / AFTER DEVELOPMENT

CLARITY BEFORE: NA

COLOR BEFORE: NA

CLARITY AFTER: NA

COLOR AFTER: NA

ODOR (IF PRESENT): NA

WATER LEVEL SUMMARY

MEASUREMENT (FEET)			DATE	TIME
DTB BEFORE DEVELOPING:	--	T/PVC	--	--
DTB AFTER DEVELOPING:	--	T/PVC	--	--
SWE BEFORE DEVELOPING:	--	T/PVC	--	--
SWE AFTER DEVELOPING:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--
OTHER SWE:	--	T/PVC	--	--

PROTECTIVE CASING DETAILS

PERMANENT, LEGIBLE WELL LABEL ADDED? ☐ YES ☑ NO

PROTECTIVE COVER AND LOCK INSTALLED? ☐ YES ☑ NO

LOCK KEY NUMBER: NA

NOTES:

TVP-14s and TVP-14d installed in same borehole. TVP-14d designated with red tape. Pressure monitoring points finished with a stop-cock and barbed fitting. Temporary points protected with traffic cone.

US EPA ARCHIVE DOCUMENT