State of Wisconsin DEPARTMENT OF NATURAL RESOURCES 2984 Shawano Avenue Green Bay WI 54313-6727

Scott Walker, Governor Cathy Stepp, Secretary Telephone 608-266-2621 Toll Free 1-888-936-7463 TTY Access via relay - 711



September 14, 2016

Mr. Jason Smith Corporate Environmental Director Tecumseh Products Company 2700 West Wood Street Paris TN 38242

Mr. Edward Jones c/o Rightway Fasteners Inc. 7945 South International Drive Columbus IN 47201

#### KEEP THIS DOCUMENT WITH YOUR PROPERTY RECORDS

SUBJECT: Final Case Closure

Tecumseh- Fill Area @ MW-1, 1604 Michigan Ave., New Holstein, WI

DNR BRRTS Activity #: 02-08-193776

Dear Mr. Smith and Mr. Jones:

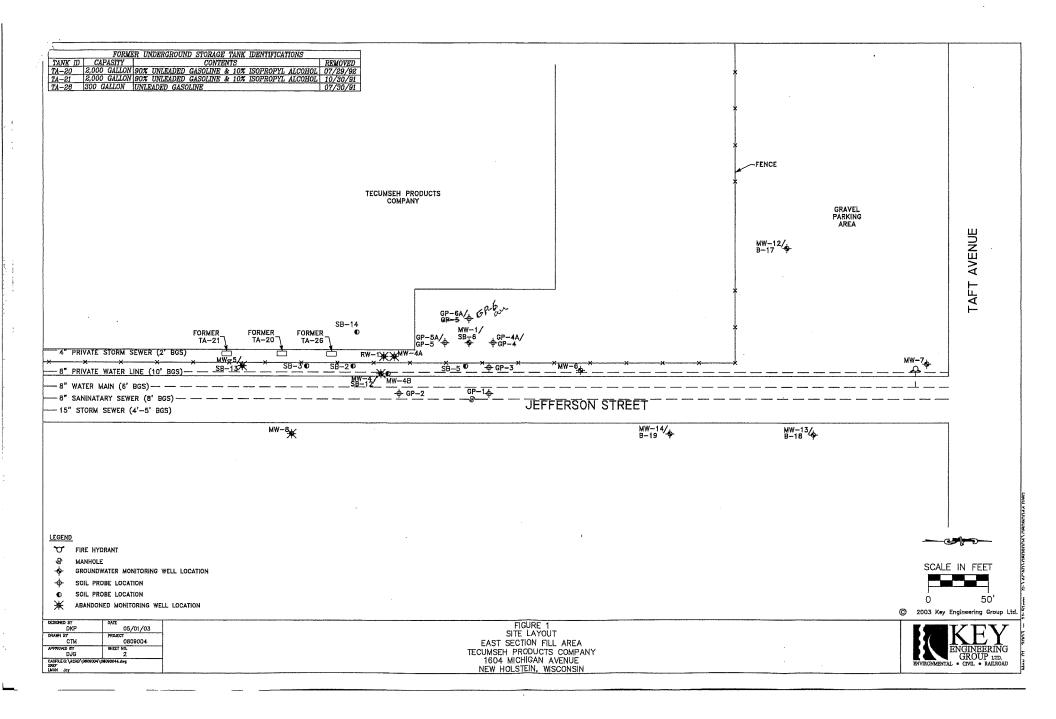
The Department of Natural Resources (DNR) considers Tecumseh- Fill Area @ MW-1 closed. No further investigation or remediation is required at this time. Provide this letter to anyone who purchases this property from you.

This final closure decision is based on the correspondence and data provided, and is issued under ch. NR 726, Wis. Adm. Code. The Northeast Region Project Manager reviewed the request for closure on August 4, 2004. The DNR reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. A conditional closure letter was issued by the DNR on August 4, 2004, and documentation that the conditions in that letter were met was received on August 30, 2012.

This case was an investigation of contaminated soil fill on the northeast portion of the Tecumseh Products Company facility. Limited contamination including the PCB Aroclor 1254 was identified in the area however it was determined that further investigation was not warranted at the time of closure review.

Some PCB contamination remains in the soil in the vicinity of soil sample location GP-6 (Figure 1, Site Layout, Key Environmental, May 1, 2003). If this soil is excavated in the future, the property owner or right-of-way holder at the time of excavation must determine if contamination remains. If contamination is present, the property owner or right-of-way holder at the time of





## WISCONSIN DEPARTMENT OF NATURAL RESOURCES CASE SUMMARY AND CLOSE OUT FORM

Form 4400-202 5-98

NOTE: Use of this form is required by the Department for any case close out application filed pursuant to ch. 292, Wis. Stats. and ch. NR 726, Wis. Adm. Code. Completion of this form is mandatory for applications for case closure. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than reviewing close out requests and determining the need for additional response action.

I certify that, to the best of my knowledge, the information presented on and attached to this form is true and accurate. This recommendation for case closure is based upon all available data as of March 14, 2000. I have read the Case Summary and Close Out Form Instructions and all required information has been included.
Form Completed By:  (Simply 2)  (Simply 2)
(Signature) (Date)
Printed Name: Curtis M. Hoffart Company Name: Key Engineering Group, Ltd.
If not site owner, relationship to site owner: Environmental Consultant
Address: W66 N215 Commerce Court, Cedarburg, WI 53012
Telephone Number: (262) 374-4750 FAX Number: (262) 375-9680
Environmental Consultant (if different then above):
Address:
Telephone Number: () FAX Number: ()
FOR DEPARTMENT USE ONLY
Type of Case: LUST Spill ER Land Recycling Other DNR Reviewer:
WDNR Site Name: Tecumseh - East Section Fill Area
Complete Site Address: 1604 Michigan Avenue, New Holstein, Wisconsin
WDNR BRRTS Case #: 02 - 08 - 193776 FID #: NA
PECFA Claim #: NA
Responsible Party Name: Tecumseh Products Company
Complete Responsible Party Address: 1604 Michigan Avenue, New Holstein, Wisconsin
Site Legal Description:1/4,1/4, SE 1/4, Sec 10, T 17 N, R 20 E Town: New Holstein
County: Calumet Latitude:o' Longitude:o'"
Type Of Closure Requested:  Soil  NR 720.09/720.11 Generic RCLs  NR 720.19(2) Soil Performance Stds.  NR 720.19(3) Site Specific Stds.  Groundwater  X < NR 140.10 Table 1 & Table 2 Values  NR 140.28(2) PAL Exemption  NR 726.05(2)(b) Natural Attenuation
Contaminant Type(s): Fill Material Quantity Released: Unknown
Date of Incident/Discovery: 1991 Zoning of Property: Heavy Industrial
Enforcement Actions Closed Out? Yes No X NA Permits Closed Out? Yes No X NA
Form 4 Pending? Yes No X NA Date Closure Submitted to DNR: March 14, 2000

1. CASE HISTORY AND JUSTIFICATION FOR CLOSURE ATTACHED?Yes _X_No - Documented in enclosed letter.  2. SOIL PRE-REMEDIATION OR INVESTIGATION ANALYTICAL RESULTS  Extent Defined? YesNo Soil Type(s): Sandy clay/sandy silt Depth to Bedrock: >30 feet
Potential Receptors for Direct Contact (i.e. vapor migration, contaminated soil left in place): None which could reasonably be affected.
Tables of Pre-remedial Analytical Results Attached? X Yes No Maps of Pre-remedial Sample Locations Attached? X Yes No
3. SOIL POST REMEDIATION ANALYTICAL RESULTS
Remedial Action Completed?Yes _X_No 720.19 Analysis?Yes _X_No (If yes, attach supporting documentation)
Were Soils Excavated?Yes X No Quantity: NA Disposal Method: NA
Final Confirmation Sampling Methods: NA
Soil Disposal Form Attached? NA YesNo Final Disposal Location: NA
Estimated volume of insitu soils exceeding NR 720 RCLs: Isolated areas in fill material.
Tables for Post Remedial Analytical Results Attached? <u>NA</u> Yes No Maps of Post Remedial Sample Locations Attached? <u>Yes No</u>
Brief Description of Remedial Action Taken: NA
4. GROUNDWATER ANALYTICAL RESULTS
Potential Receptors for Groundwater Migration Pathway: None which could reasonably be affected.
# of Sample Rounds: 16 Depth(s) to Groundwater/Flow Direction(s): 3 to 15 feet / northwesterly to northerly.  Field Analyses?YesX_No _ Lab Analyses?X_YesNo # of Sampling Points: 2 to 9 (LUST case)
# NR 141 Monitoring Wells Sampled: 9 (LUST case) # Temporary Groundwater Sampling Points Sampled: 0
# Recovery Sumps Sampled: 1 # Municipal Wells Sampled: 0 # Private Wells Sampled: 0
Has DNR Been Notified of Substances in Groundwater w/o Standards? NA Yes No
Has DNR Been Notified of Substances in Groundwater w/o Standards? NA Yes No Feet of Site? Yes X No If Yes, How Many?
Have They Been Sampled? NA Yes No Have Well Owners/Occupants Been Notified of Results? NA Yes No
Preventive Action Limit Exceeded? Yes No. (If Yes, identify location(s)
Enforcement Standard Exceeded? Yes No (If Yes, identify location(s)
Tables of Analytical Results Attached? Yes X No Map of Groundwater Sample Locations Attached? X Yes No
Brief Description of Remedial Action Taken: NA

WDNR Site Name: Tecumseh - East Section Fill Area

Nove

WDNR BRRTS Case #: 02 - 08 - 193776

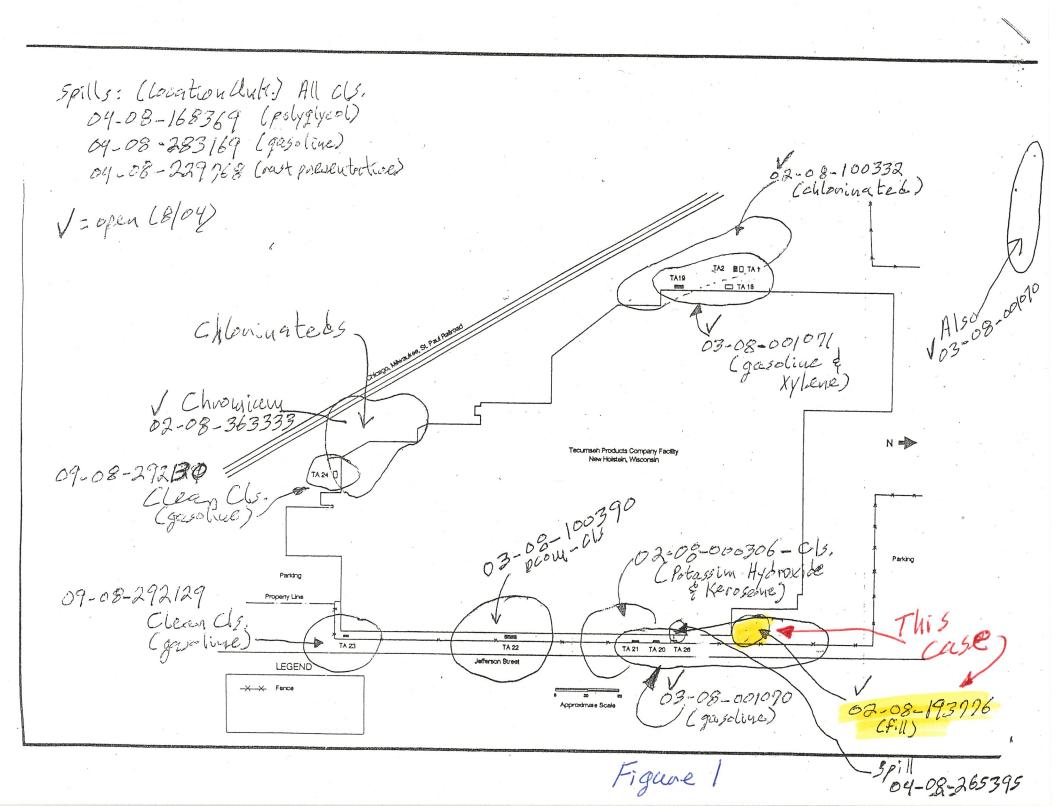
FOR DEPARTME	NT USE ONLY		
FIRST REVIEW DATE	: 8-4-04	Approved [ ] Denied	
aleur Mun			
(Signature)	(Signature)	(Signature)	(Signature)
SECOND REVIEW DA	ГЕ:	[ ] Approved [ ] Denied	
(Signature)	(Signature)	(Signature)	(Signature)
Grou Zoni Deec Deec Site Well Soil Publ		e Poletiuski co	year that PCB cout.
Inves Grou Soil I Grou	ed, Needs More: tigation ndwater Monitoring Remediation ndwater Remediation mentation Of Soil Landspreading	g Or Biopile Destiny	
Marghe E-mai	ed by C.C. on	9-9-2016, See n dated 8-23-	Mc Kright 2016 Tattach to

Monthly Closure Regiest when Scanny).

Melle PCB @ GP-6 - Concentration 1.5 mg/kg - above 1.4 mg/kg

Letection limits Close. Add lang to find Closure

Letter Explaining tireline, detection, & 1. miteo Quantity (other samples)





Case History

Fastification - Closure

W66 N215 Commerce Court Cedarburg, Wisconsin 53012 (262) 375-4750 (800) 645-7365 Fax (262) 375-9680

March 14, 2000

Mr. Alan Nass Wisconsin Department of Natural Resources Northeast Region 1125 North Military Avenue Post Office Box 10448 Green Bay, Wisconsin 53407-0448

Reference:

Case Closure Request/

Limited Site Investigation Report Tecumseh-East Section Fill Area

1604 Michigan Avenue New Holstein, Wisconsin

WDNR BRRTS #02-08-193776

RECEIVED

MAR 1 5 2000

LMD SOLID WASTE

KEY ENGINEERING GROUP, LTD. File No. 0809004

Dear Mr. Nass:

The purpose of this letter is to provide the Wisconsin Department of Natural Resources (WDNR) with the results of the limited site investigation (LSI) and request case closure for the above referenced site. This letter was prepared by Key Engineering Group, Ltd. (KEY) on behalf of Tecumseh Products Company (Tecumseh).

#### **Purpose and Objectives**

Approximately 8 feet of fill material, which included paint chips, metal shavings and ash, was encountered during the gasoline leaking underground storage tank (LUST) site investigation in the East Section (WDNR LUST ID# 03-08-01070). The fill material was encountered at soil boring SB-6 (MW-1), located near the northeast corner of the Tecumseh facility. Concentrations of benzene, ethylbenzene, xylenes and trimethylbenzenes were detected in a sample of the fill material collected from 4 to 6 feet below ground surface (bgs). The benzene concentration exceeded the NR 720 generic residual contaminant level (GRCL) based on the protection of groundwater.

The WDNR notified Tecumseh in a July 29, 1998 letter to submit a work plan for the investigation of the fill material impacts since they appeared to be unrelated to the East Section LUST impacts. Additionally, the WDNR notified Tecumseh in an August 4, 1998 letter that management of this area of contamination in accordance with NR 700 through NR 728 is required.

The objectives of the LSI were to identify whether fill material impacts detected at SB-6/MW-1 have impacted native soils beyond the area of fill and evaluate whether remedial action associated with the fill material impacts is warranted. Additionally, LSI data was also used to evaluate whether the fill material impacts at SB-6/MW-1 are representative of an isolated area or are indicative of a widespread area of contaminated fill material.

#### **Background Information**

Significant soil and groundwater sample data has been collected in the vicinity of the Fill Area in association with the East Section LUST case. LUST case data was most previously documented in KEY's January 27, 2000 Case Closure Request.

Mr. Alan Nass March 14, 2000 Page 2

LUST case information pertinent to the Fill Area is summarized as follows:

- The groundwater flow direction in the East Section is northerly to northwesterly.
- MW-1 was the only monitoring well installed within the area of fill material (other than areas of exclusively soil fill).
- The average depth to groundwater at MW-1 is approximately 12 feet bgs; soil contamination within fill material is not present at depths greater than 6 to 7 feet bgs at SB-6/MW-1.
- No petroleum volatile organic compounds (VOCs) (most significant contaminants detected in fill material concentrations) have historically been detected in groundwater within or downgradient of the Fill Area (MW-1 and MW-12, respectively).

#### **Investigation Procedures**

The LSI was conducted in general accordance with KEY's October 6, 1998 Limited Site Investigation Work Plan and October 12 and 15, 1998 letters from the WDNR. The LSI consisted of advancing three soil probes to the north, west and south of SB-6/MW-1 (GP-4, GP-5 and GP-6). One soil probe was also conducted east of SB-6/MW-1 in conjunction with LUST investigation activities conducted concurrently with the LSI (GP-3). The soil probes were advanced with a truck-mounted Geoprobe unit operated by Briohn Environmental Contractors, Inc. on September 29, 1999. The soil probe locations are depicted on Figure 1.

Each soil probe was advanced to 10 or 12 feet bgs. Soil samples were collected at 2-foot intervals and were classified in the field in accordance with the Unified Soil Classification System. Each soil sample was also field screened for the presence of VOCs with a photoionization detector (PID). Two soil samples collected from GP-4, GP-5 and GP-6 were submitted to Great Lakes Analytical laboratory for analysis of VOCs and Resource Conservation and Recovery Act metals. One soil sample collected from GP-3 (LUST soil probe) was submitted for gasoline range organics and petroleum volatile organic compounds. Soil boring and sampling information, soil sample classification data and field screening results are documented on soil boring logs included in Attachment 1.

#### Results

Approximately 8 to 9 feet of fill material consisting of silty clay or clayey silt with glass and wood fragments was encountered at GP-4, GP-5 and GP-6. The fill material was underlain by sandy clay, sandy silt or silty clay. Fill material was not encountered at GP-3. The depth and type of fill material was generally consistent with the fill documented by Dames & Moore at SB-6/MW-1. The depth to groundwater in MW-1 at the time of the LSI was approximately 12 feet bgs.

Soil sample field screening results generally indicated PID readings above background for soil samples collected from the fill material at GP-4, GP-5 and GP-6. Lower PID readings were measured in underlying native soils. No significant PID readings were measured at GP-3. Soil sample field screening results are included on the attached boring logs.

The soil sample analytical results are summarized in Table 1 and on Figure 2 and the Great Lakes Analytical laboratory report and chain of custody documentation are included in Attachment 2. The soil sample analytical results indicated that several VOCs were detected in soil samples collected primarily from fill material at depths of 4 to 6 bgs or 6 to 8 bgs. The VOCs were generally petroleum related with the exception of 1,2-dichlorobenzene and 2,2-dichloropropane, which were detected at GP-4 and/or GP-5. Naphthalene and xylene were detected at concentration exceeding NR 720 or WDNR interim guidance GRCLs for the protection of groundwater in soil samples collected from fill material at GP-4 and GP-5. No NR 720 GRCLs or United States Environmental Protection Agency preliminary remediation goals or soil screening levels were exceeded in soil samples collected at GP-6 or GP-3 or in native soils underlying fill material. Benzene was not detected in any of the soil samples.

Several metals were detected at low (background) concentrations in soil and fill material samples.

Mr. Alan Nass March 14, 2000 Page 3

#### **Conclusions**

Based on the LUST case and LSI results, further investigation and remedial action associated with the on-site fill material is not considered warranted. This conclusion is supported by the following rationale:

- Residual fill material petroleum VOC impacts are confined to the layer of fill material and have not significantly impacted underlying native soils.
- Residual contaminant concentrations do present a direct contact risk.
- Based on the lack of groundwater impacts within and down gradient of the Fill Area, residual benzene, naphthalene and xylene concentrations in soil represent a localized area within the Fill Area, and therefore, do not represent a significant source of future groundwater impacts.
- No land use changes are projected at the site.

Based on the LUST case/LSI data and this rationale, case closure is appropriate.

Sincerely,

KEY ENGINEERING GROUP, LTD.

Curtis M. Hoffart, CHMM

**Project Scientist** 

Gregory L. Johnson, CHMM, P.G., P.E. Manager of Technical Services

CMH/mas

**Enclosures:** 

Table 1

Summary of Soil Sample Analytical Results

Figure 1

Site Layout

Figure 2

Summary of Soil and Groundwater Sample Analytical Results

Attachment 1

Soil Boring Logs/Abandonment Forms

Laboratory Report and Chain of Custody Documentation Attachment 2

cc: Mr. Kerry DeKeyser, Tecumseh Products Company



W66 N215 Commerce Court Cedarburg, Wisconsin 53012 (262) 375-4750 (800) 645-7365 Fax (262) 375-9680 Case History - Continues Cls, Jastification - Continues WIDNR MAY 2 2 2003

May 20, 2003

Mr. Alan Nass Wisconsin Department of Natural Resources Northeast Region 1125 North Military Avenue Post Office Box 10448 Green Bay, Wisconsin 53407-0448

Reference:

Response to WDNR's May 31, 2000 Correspondence

Tecumseh-East Section Fill Area

1604 Michigan Avenue New Holstein, Wisconsin

WDNR BRRTS #: 02-08-193776

KEY ENGINEERING GROUP, LTD. File No. 0809004

Dear Mr. Nass:

Pursuant to the Wisconsin Department of Natural Resources (WDNR) May 31, 2000 correspondence (attached), the purpose of this letter is to provide the additional requested soil analytical data for the above referenced site. Key Engineering Group, Ltd. (KEY) previously submitted a Case Closure Request/Limited Site Investigation Report (KEY, March 14, 2000) with the \$750.00 closure review fee and the WDNR Case Summary and Closeout Forms. Moreover, it is understood that once the WDNR receives this information the case closure review process will continue. This letter was prepared by KEY on behalf of Tecumseh Products Company.

#### **Investigation Procedures**

Three soil probes (GP-4A, GP-5A and GP-6A) were advanced with a truck-mounted Geoprobe<sup>®</sup> unit operated by Soil Essentials on April 8, 2003, in the immediate vicinity of the previous soil probe locations. The soil probe locations are depicted on Figure 1.

The soil probes were advanced to 10 or 12 feet below ground surface. Soil samples were collected at 2-foot intervals and were classified in the field in accordance with the Unified Soil Classification System. Each soil sample was also field screened for the presence of volatile organic compounds with a photoionization detector (PID). Two soil samples from each soil probe were collected from GP-4A, GP-5A and GP-6A and submitted to Test America for analysis of polynuclear aromatic hydrocarbons (PAHs) and three soil samples were collected and submitted for analysis of polychlorinated biphenyls (PCBs). The soil samples were collected from the fill (one PAHs and two PCBs) and native soil (one PAHs and one PCBs) as outlined in the WDNR, May 31, 2000, correspondence. Soil probe and sampling information, soil sample classification data and field screening results are documented on soil boring logs which are included in Attachment 1. Borehole abandonment forms are also included in Attachment 1.

Mr. Alan Nass May 20, 2003 Page 2

#### Results

The soil sample analytical results are summarized in Table 1. The soil sample analytical reports and chain of custody documentation are included in Appendix 2.

The results of field screening indicated that PID readings ranged from <1.0 instrument unit (i.u.) to 18 i.u. Soil sample field screening results generally indicated PID readings above background for soil samples collected from the fill material at GP-4A, GP-5A and GP-6A. Lower PID readings were measured in underlying native soils. The boring logs included in Appendix 1 include PID readings for each interval sampled.

The site investigation (SI) laboratory PAH soil sample analytical results indicated that no soil sample concentrations were greater than WDNR Interim Guidance Generic Residual Contaminant Levels for the protection of groundwater or for the direct-contact exposure pathway.

The SI laboratory PCB soil sample analytical results indicate that no soil samples contained more than 50 micrograms per kilogram.

#### **Conclusions**

Based the PAH and PCB soil analysis and the previously submitted Case Closure Request/Limited Site Investigation Report (KEY, March 14, 2000) with the \$750.00 closure review fee and the WDNR Case Summary and Closeout Forms it is understood that the case closure review process will continue upon receipt of this letter.

Please call if you have any questions.

Sincerely,

KEY ENGINEERING GROUP, LT

Daniel K. Pelczar, CPG, P.G.

Senior Hydrogeologist

Andrew B. Graham, P.E., P.G., CHMM

Senior Engineer

DKP/vjc

cc: Mr. Bharat Shah, Tecumseh Products Company

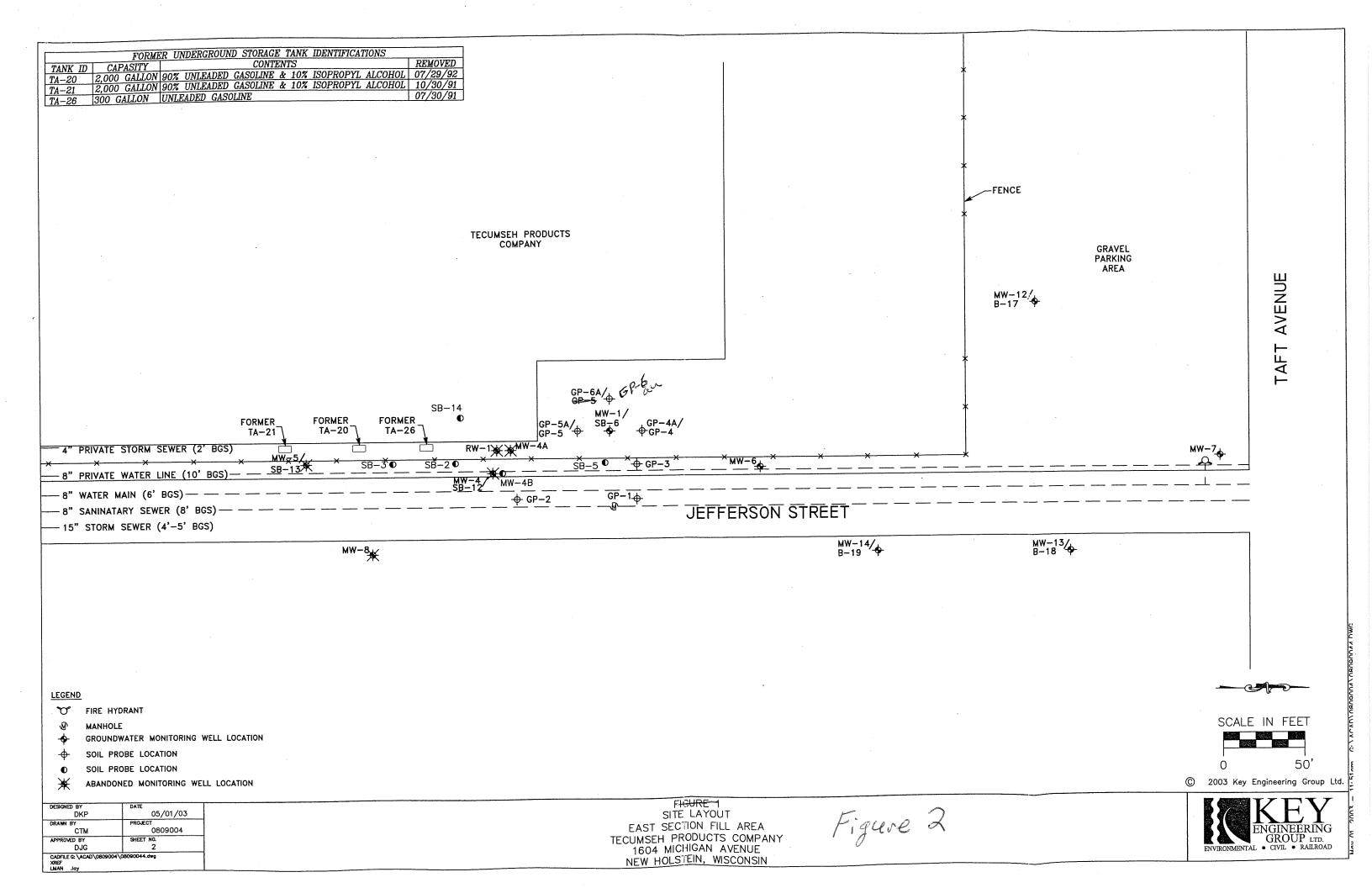
Attachments: Case Closure Review (WDNR, May 31, 2000)

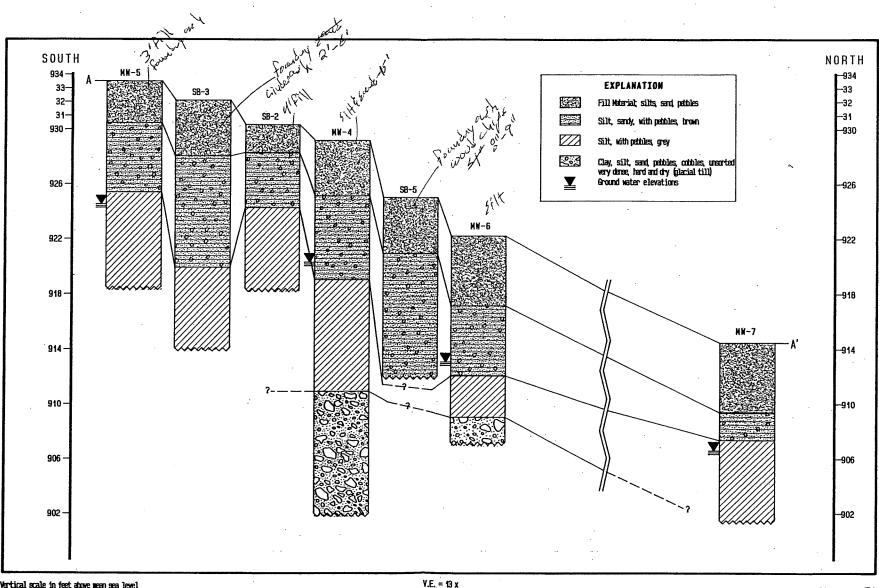
Table 1 - Summary of Soil Analytical Data

Figure 1 - Site Layout

Attachment 1 - Soil Probing Logs/Abandonment Forms

Attachment 2 - Soil Analytical Report/Chain of Custody Form





Vertical scale in feet above mean sea level

Dames & Moore, Inc. Milwaukee, Misconsin

Approximate Horizontal Scale 100 feet

Cross Section A-A': East Section Tecumseh Products Company
New Holstein, Wisconsin
Figure 3

#### TABLE 1

SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS (Sample & 19/99)

#### **TECUMSEH - EAST SECTION FILL AREA**

1604 Michigan Avenue New Holstein, Wisconsin

	GP-3	GP-4		GP-5		G	P-6	SB-6 / MW-14	NR 720	US	EPA
									GRCL	PRG	SSL
Depth (feet)	6-8	6-8	10-12	4-6	10-12	4-6	10-12	4-6	)		
PID (i.u.)	3	67	3	140	4	182	4	1,011		·	
Detected VOCs (μg/kg)											
Benzene	<25	<25	<25	<25	<25	<25	<25	1,500	5.5	1,400	30
n-Butylbenzene		1,300	120	2,200	<25	620	<25			5.5 E 05	
sec-Butylbenzene		<25	<25	1,700	<25	300	<25			4.1 E 05	
tert-Butylbenzene		620	<25	450	<25	<25	<25			4.9 E 05	
1,2-Dichlorobenzene		<25	<25	360	<25	<25	<25			3.7 E 05	1.7 E 04
2,2-Dichloropropane	1	53	<25	<25	<25	<25	<25				1.7 2 04
Di-Isopropyl ether	-	<25	<25	<25	<25	200	<25				
Ethylbenzene	<25	210	<25	2,200	34	440	<25	1,600	2,900	2.3 E 05	1.3 E 04
Isopropylbenzene		430	<25	2,200	<25	210	<25	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		5.2 E 05	1.0 2 04
Naphthalene	(	410	110	2,500	<25	190	<25		400 <sup>1</sup>	1.9 E 05	8.4 E 04
n-Propylbenzene		360	<25	1,200	<25	240	<25			5.5 E 05	0.1201
Toluene	<25	200	<25	250	<25	90	<25		1.500	5.2 E 05	1.2 E 04
1,2,4-Trimethylbenzene	<25	750	95	2,000	38	870	<25	1,800		1.7 E 05	1.2 2 04
1,3,5-Trimethylbenzene	140	450	<25	1,200	<25	320	<25	1,100		7.0 E 04	
Xylene	<25	750	<25	9,700	170	970	<25	1,000	4,100	2.8 E 05 <sup>2</sup>	1.9 E 05 <sup>2</sup>
Detected Metals (mg/kg) <sup>5</sup>											1.0 2 00
Barium		64	<28	71	<28	43	35 -			1.0 E 05	1,600
Chromium		(14)	3.9	13	4.8	12	8.8	14	/200 <sup>3</sup>	4,500	38
Lead		13	<1.1	35	<1.1	14	6.7	- 50	500 <sup>3</sup>	1.000	
Mercury		0.083	<0.045	0.13	<0.045	<0.049	<0.044	_	/	560	
Selenium		1.0	0.63	1.6	<0.56	1.8	<0.56			10,000	5

20/110

Bold concentration exceeds applicable GRCL or SSL based on the protection of groundwater

- 1 WDNR interim guidance 20/ [[0
- 2 o-xylene referenced
- 3 industrial direct contact GRCL
- 4 soil boring by Dames & Moore (10/91)
- 5 Arsenic, Cadmium and Silver were analyzed but not detected
- --- not analyzed or not applicable

GRCL - NR 720 generic residual contaminant level based on the protection of groundwater mg/kg - milligrams per kilogram

PID - photoionization detector

PRG - USEPA Region 9 industrial direct contact Preliminary Remediation Goal

SSL - USEPA Region 9 Soil Screening Level for the protection of groundwater (with dilution) μg/kg - micrograms per kilogram

USEPA - United States Environmental Protection Agency

VOCs - volitale organic compounds

Note: Any Petroleum-Related Contamination Is Not From This Case (i.e. Ignore).

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#### SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

#### TECUMSEH - EAST SECTION FILL AREA

1604 Michigan Avenue New Holstein, Wisconsin

9				SAMPL	E IDENTIFI	CATION				GENER	RIC RCLs		
		GP-4A			GP-5A			GP-6A		GP-6A		PROTECTION OF GROUNDWATER	DIRECT CONTACT (INDUSTRIAL)
Date Sampled	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03				
Depth (feet)	0-2	4-6	8-10	0-2	4-6	8-10	0-2	4-6	8-10				
PID (i.u.)	<1	<1	<1	· <1	18	<1	<1	<1	<1				
PAHs (µg/kg)										A R 1			
Acenaphthene		<600	<61		<550	<60		<59	<64	38,000 (1)	60,000,000 (1)		
Acenaphthylene		<1,000	<100		<930	<100		<100	<110	700 (1)	360,000 (1)		
Anthracene		<60	<6.1		<55	<6.0		<5.9	<6.4	3,000,000 (1)	300,000,000 (1)		
Benzo(a)anthracene		<60	<6.1		<55	<6.0		86	14	17,000 (1)	3,900 (1)		
Benzo(a)pyrene		<60	<6.1		<55	<6.0		60	<6.4	48,000 (1)	390 (1)		
Benzo(b)fluoranthene		<60	<6.1		<55	<6.0		12	<6.4	360,000 (1)	3,900 (1)		
Benzo(g,h,i)perylene		<60	<6.1		<55	<6.0		89	<6.4	6,800,000 (1)	390,000 (1)		
Benzo(k)fluoranthene		<60	<6.1		<55	<6.0		26	<6.4	870,000 (1)	39,000 (1)		
Chrysene		<60	<6.1		69	<6.0		34	14	37,000 (1)	390,000 (1)		
Dibenzo(a,h)anthracene		<91	<9.1		<82	<9.1		<8.9	<9.6	38,000 (1)	390 (1)		
Fluoranthene		<120	<12		<110	<12		142	31	500,000 (1)	40,000,000 (1)		
Fluorene		<120	<12		<110	<12		<12	<13	100,000 (1)	40,000,000 (1)		
Indeno(1,2,3-cd)pyrene		<60	<6.1		<55	<6.0		30	<6.4	680,000 (1)	3,900 (1)		
1-methyl naphthalene		<360	<36		<330	<36		<35	<38	23,000 (1)	70,000,000 (1)		
2-methyl naphthalene		<300	<30		<270	<30		<30	<32	20,000 (1)	40,000,000 (1)		
Naphthalene		<360	<36		<330	<36		<35	<38	400 (1)	110,000 (1)		
Phenanthrene		<60	<6.1		175	<6.0		57	19	1,800 (1)	390,000 (1)		
Pyrene		<60	<6.1		131	<6.0		236	36	8,700,000 (1)	30,000,000 (1)		
PCBs (mg/kg)													
Aroclor 1016	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32				
Aroclor 1221	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	< 0.32				
Aroclor 1232	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32				
Aroclor 1242	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32				
Aroclor 1248	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32				
Aroclor 1254	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	1.5	<0.60	<0.32				
Aroclor 1260	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32				
Total PCBs	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	1.5	<0.60	<0.32				

#### Notes:

Bold values exceed the WDNR Interim Guidance (1) protection of groundwater values Boxed values exceed the WDNR Interim Guidance (1) direct-contact values

--- - not analyzed, not applicable or no standard established

(1) - From Soil Cleanup Levels for PAHs Interim Guidance, WDNR, PUBL-RR-519-97, April 1997, Corrected. bgs - below ground surface

mg/kg - millgrams per kilogram

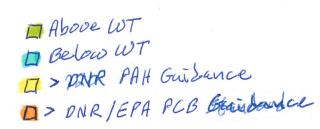
NA - not applicable

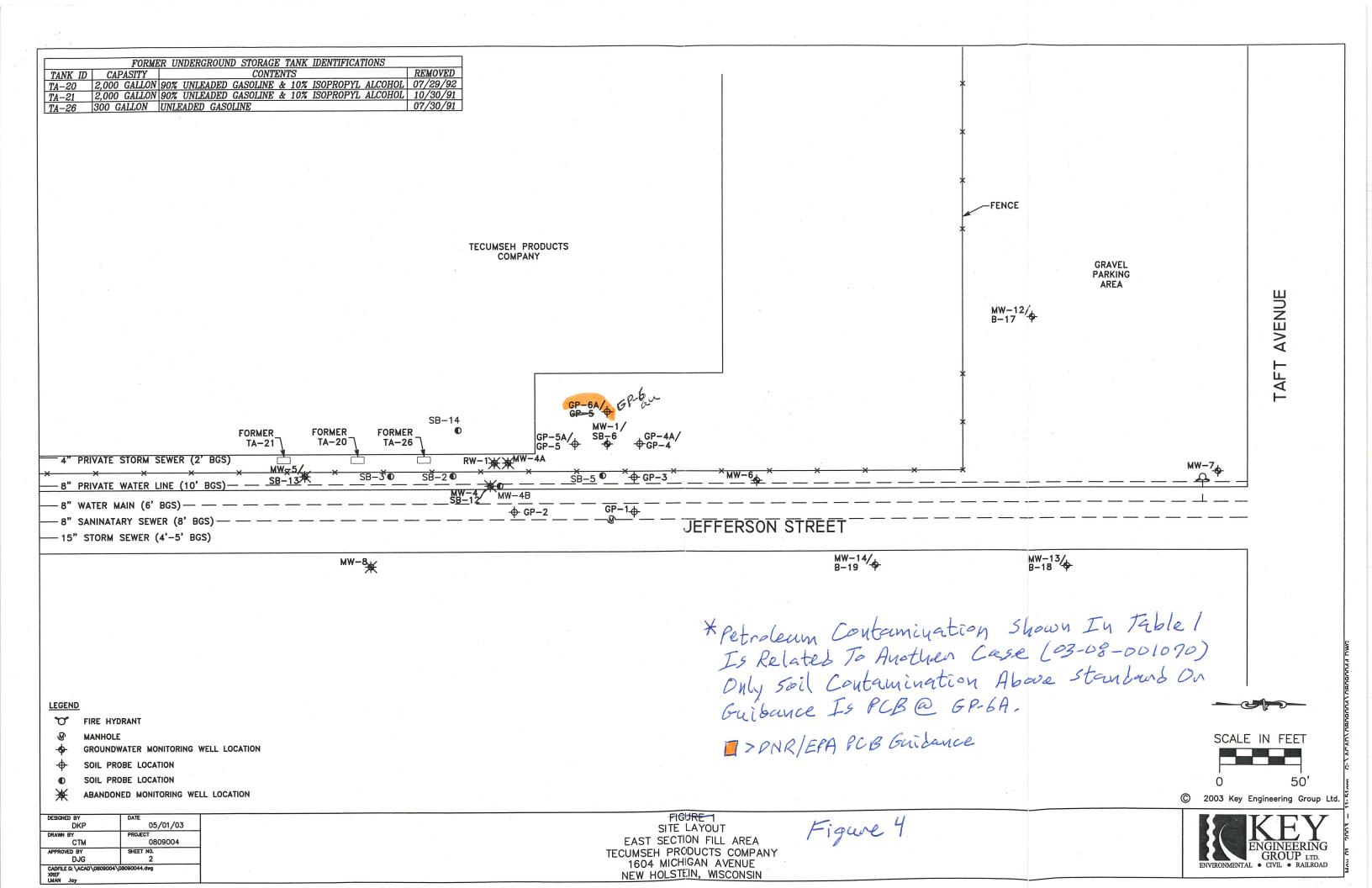
PAHs - polynuclear aromatic hydrocarbons

PCB - polychlorinated biphenyls

Q - result between the limit of detection and limit of quantitation

RCLs - residual contaminant levels





Note: Any Retroleum - Related Contemlination Is Not From This Case (i.e. Iguone)

#### systed concentrations exceed NR 140 ES

GRO - gasoline range organics MTBE - methyl fert-butyl-ether NE - not established PAL - preventive action limit

all concentrations in micrograms per liter bolded concentrations exceed NR 140 PAL ES - enforcement standard

NOTES:

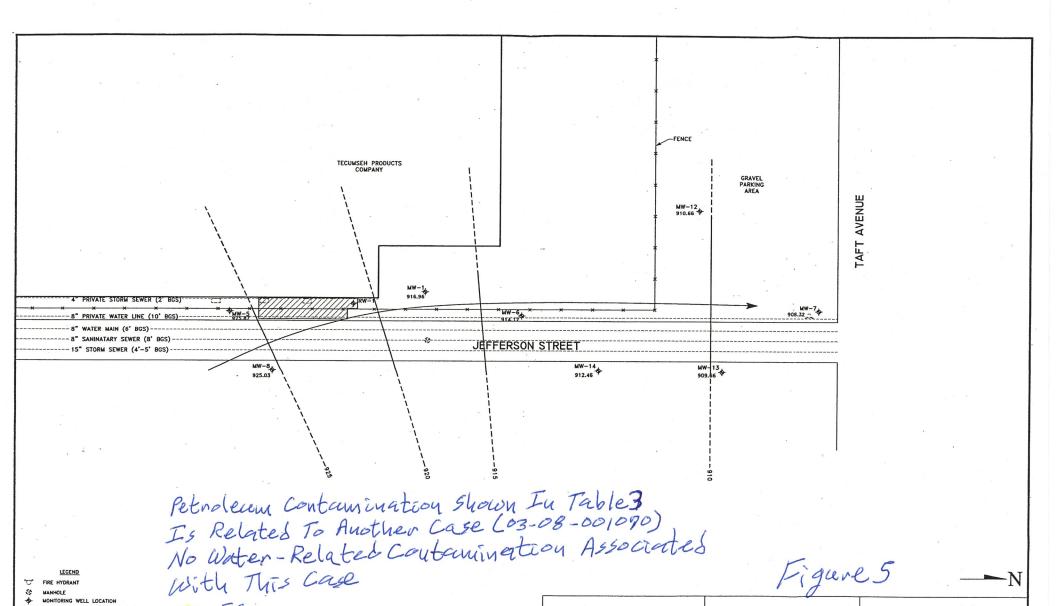
						1 171	0.0	15	6.1
140 PAL		NE	č.0	343	140	154	98	09	SI
140 E2 .		NE	86.0	09.0>	05.0>	88.0	<2.0	25	
-	66/67/6		88.0>	03.0>	03.0>	03.0>	<2.0	49	
→1-N	96/91/9		0.1>	0.1>	0.1>	0.1>	<2.0	5.01	
1	96/91/9	<b>+</b>	5.5>	5.5>	<2.5	<2.5	<100	<250	
61-V	86/9/9		0.1>	0.1>	0.1>	0.1>	<2.0	0.1>	
617	96/6/L	-	6.2>	3.5>	<2.5	5.5>	0.01>	<25	
71-7	26/9/9	09	0.1>	0.1>	0.1>	0.1>	<2.0	0.1>	3.5
077	Z6/01/9	09>	. 09'0>	09.0>	06.0>	05.0>	<2.0	<0.20	
1	96/91/9	09>	09:0>	03.0>	05.0>	09.0>	. <2.0	0.6>	
1	10/5/95	09>	9.0>	0,1>	0.1>	<2.0	0.2>	0.1>	
1	96/81/L	09>	9.0>	0.1>	0.1>	<2.0	0°Z>	0.1>	
	96/11/Þ	OG>	9.0>	0.1>	0.1>	<2.0	<2.0	0.1>	
	36/01/1		0.1>	0.1>	0.1>	<2.0	0.5>	0.1>	
	<b>≯6/8/6</b>	<100	0.1>	0.1>	0.1>	0.1>	0.5>	0.1>	3
	12/17/93	09>	0.1>	0.1>	0.1>	0.1>	<2.0	0.1>	6.7
	£6/9/9	01>	0.1>	1>	1>	63	_		0.4>
8-V	7/30/92	01>		2,5>	6.2>	6.2>	0.01>	<52	
	96/91/9	01>	0,r> 8,s>	0.1>	0.1>	0.1>	<2.0	6.1	8.6
L-N	86/9/9			06.0>	08.0>	0.1	0'Z>	38	
	76/81/6	99	6.0	06.0>	08,0>	03.0>	<2.0	140	
	3/27/97	17	3.3	03.0>	03.0>	05.0>	<2.0	19	
	96/17/11	0440	8.6	4.1	6.8	2,3	. 58	13	
1	96/1/8	94	13	05.0>	09.0>	09'0>	<2.0	39	
1	96/91/9	09>	8.2	03.0>	09'0>	05.0>	<2,0	69	
	10/2/95	110	2.5	0.1>	0.1>	<2.0	<2.0	140	
	96/81/1	150	9.3	0.1>	0.1>	<2.0	<2.0	110	
	96/11/17	▶6	1.2	0.1>	0.1>	<2.0	<2.0	<b>b</b> Z	-
	96/01/1		0.1>	0.1>	0.1>	<2.0	<2.0 <2.0	130	
	Þ6/8/6	170	5.3	0.1>	0.1>	<2.0	<2.0	4.2	
	4/27/94	<100	0.1>	0.1>	0.1>	0.1>	<2.0	29	7.4
	£6/9/9	09	4.11	1>	1>	<3			· \$>
9-N	7/30/92	300		05.0>	09.0>	03.0>	<2.0	02.0>	
	76/01/9	09>	06.0>	05.0>	03.0>	03.0>	<2.0	0.6>	
	96/91/9	09>	8.0> 08.0>	0.1>	0.1>	<2.0	<2.0	0.1>	
	10/2/95	99>	9,0>	0.1>	0.1>	<2.0	<2.0	0.1>	
	96/21/17	09>	9.0>	<1.0	0.1>	<2.0	<2.0	0.1>	
	96/01/1		0.1>	0.1>	0.1>	0.2>	<2.0	0.1>	
a 1:	<b>≯6/8/6</b>	<100	0.1>	0.1>	0.1>	<2,0	<2.0	0.1>	
	Þ6/Þ/9	<100	0.1>	0.1>	0,1>	<2.0	<2.0	0.1>	
	12/17/93	09>	0.1>	0.1>	0,1>	. 0.1>	<2.0	0.1>	2.0
1	26/9/9	01>	0.1>	0.1>	0.1>	0.1>	<2.0	0.1>	<b>b&gt;</b>
	7/30/92	01>	1>	1>	l>	<3	<2.0		-
9-1	16/71/11		0.1>	0.1>	0.1>	0,4>		0.6	_
	76/81/6	420	0.4	2.2	53	61	29 49	02.0>	
	76/01/8	250	1.4	2.6	3.9	96.0>	0.2>	02.0>	
	3/27/97	09>	03.0>	05.0>	06.0>	03.0>	0.2>	160	-
	11/21/96	65	6.8	8.f 0.f	03.0>	11	9'9	ÞL	
	96/1/8	390	3.0	02.0>	08.0>	09'0>	0.2>	0.6>	
	96/31/9	400	3.0	9,1	24	4.4	56	3.1	
	36/2/01	2100	99	8.8	120	4.48	3.371	Z.7	-
	96/11/17	0012	9.0>	0.1>	0.1>	<2.0	<2.0	0.1>	
	96/01/1		0.1>	0,1>	0.1>	<2:0	<2.0	0,1>	-
	₱6/8/6	2000	06	31	18	<20	071	. 01>	-
	\$6/\$/S	940	38	6.4	1.1	19	97	3.4	
	12/17/93	3080	0.744	0.03>	149.0	333.0	0.158	0.03>	
	£6/9/9	160	1.21	7.91	13.8	9.75	21.9	0.1>	b> 6.
	7/30/92	325	L	1	7	16			V>
1-WAW4-WM/4-W	16/71/11		04	63	76	752	68F	0.710	
	Z6/01/9	.09>	03.0>	05.0>	08,0>	<0.50	. 0.2>	05.0>	-
	96/91/9	09>	03.0>	05.0>	0.50>	09'0>	<2.0 <2.0	0.1>	-
	10/2/95	<90	9.0>	0.1>	0.1>	0.2>	<2.0	0.1>	
	96/81/1	<20	9.0>	0.1>	0.1>	0.2>	<2.0	0.1>	_
	36/T1/A	<20	9.0>	0.1>	0.1>	<2.0 <2.0	<2.0 0.2>	0.1>	
	36/01/1		0.1>	0.1>	0.1>	<2.0	<2.0	0.1>	
	<b>≯6/8/6</b>	<100	0.1>	0.1>	0.1>	<2.0	3.8	0.1>	
	4/27/94	<100	0.1>	0.1>	0.1>	0.1>	0, <u>2</u> >	0.1>	2>
		09>	01>	0 \$>			<2.0	0.1>	2.
	12/17/93		0.12	0.12	0.1>	0.1>			
	£6/9/9	Ot>	0.1>	0.1>	0,1>	6>			
I-MI			0.t> -?> 0.t>	0.f> f> 0.f>		<4.0 <3 <0.1>			'þ> 

TECUMSEH PRODUCTS COMPANY - EAST SECTION 1604 Michigan Avenue New Holstein, Wisconsin

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

OBIGAT

Table 3



FIRE HYDRANT

MANHOLE

MONITORING WELL LOCATION 916.96 GOUNDWATER ELEVATION (9/29/99)

GROUNDWATER FLOW DIRECTION

17>ES 1>PAI

	0	30 60	
	SCA	LE: 1"=60"	
DRN. BY:	J.J.J.	DATE:	01/11/0
DSN. BY:	CMH	FILE NO:	030300

C.M.H. DWG. NO.: G.L.J. SHEET NO .:

Figure 5

FIGURE GROUNDWATER ELEVATION CONTOUR MAP (SEPTEMBER 29, 1999)
EAST SECTION
TECUMSEH PRODUCTS COMPANY
1604 MICHIGAN AVENUE
NEW HOLSTEIN, WISCONSIN

TABLE 4

#### SUMMARY OF GROUNDWATER ELEVATION DATA

# TECUMSEH PRODUCTS COMPANY - EAST SECTION New Holstein, Wisconsin

	PVC PIPE		DEPTH TO	GROUNDWATER
WELL	ELEVATION		GROUNDWATER	ELEVATION
NUMBER	(FEET)	DATE	(FEET)	(FEET)
MW-1	928.98	8/9/92	13.42	915.56
		5/5/93	13.22	915.76
	[	6/9/93	10.11	918.87
	1	5/5/94	9.06	919.92
	·	9/9/94	13.89	915.09
	}	1/10/95	15.21	913.77
	1	4/17/95 7/18/95	12.72 14.13	916.26 914.85
		10/2/95	14.17	914.81
		5/16/96	9.00	919.98
	1	7/9/96	10.72	918.26
	·	8/7/96	11.05	917.93
		11/21/96	13.83	915.15
	1 [	3/27/97	10.72	918.26
	1 [	6/10/97	11.86	917.12
	1	9/18/97	12.95	916.03
		9/29/99	12.02	916.96
MW-5	933.19	8/9/92	8.53	924.66
Į.		5/5/93	8.30	924.89
		6/9/93	4.41	928.78
		5/5/94	3.85	928.34 924.03
		9/9/94	9.16 10.12	924.03 923.07
	;	1/10/95 4/17/95	10.12 8.41	924.78
	1 h	7/18/95	9.11	924.08
	1	10/2/95	9.30	923.89
	1	5/16/96	6.68	926.51
	1 1	7/9/96	6.16	927.03
	Ì	8/7/96	6.74	926.45
	ł	11/21/96	8.83	924.36
	[	3/27/97	4.39	928.80
	1	6/10/97	9.00	924.19
		9/18/97	8.09	925.10
	1	9/29/99	7.32	925.87
MW-6	921.90	8/9/92	8.93	912.19
		5/5/93	5.24	916.66
	1 ' 1	6/9/93 5/5/94	5.60 5.24	916.30 916.66
				912.70
	1		1 920 1	
•		9/9/94	9.20 10.14	
		9/9/94 1/10/95	10.14	911.76 913.70
· · · · · · · · · · · · · · · · · · ·		9/9/94		911.76
		9/9/94 1/10/95 4/17/95	10.14 8.20	911.76 913.70
		9/9/94 1/10/95 4/17/95 7/18/95	10.14 8.20 9.39 9.33 6.08	911.76 913.70 912.51 912.57 915.82
		9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96	10.14 8.20 9.39 9.33 6.08 6.77	911.76 913.70 912.51 912.57 915.82 915.13
		9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96	10.14 8.20 9.39 9.33 6.08 6.77 7.06	911.76 913.70 912.51 912.57 915.82 915.13 914.84
		9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75
		9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43
		9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00
		9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00
MAN Y	01404	9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/19/99 8/9/92 5/5/93	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16	911.76 913.70 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05
MW-7	914.21	9/9/94 1/10/95 4/17/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 910.00 911.05 906.66 906.35
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86 5.58	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05 906.66 906.35
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86 5.58 8.04	911.76 913.70 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05 906.66 906.35 908.63 906.17
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/18/97 9/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86 5.58 8.04 7.51 5.64 5.29	911.76 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05 906.66 906.35 908.63 906.17 906.70 908.57 908.92
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 8/7/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86 5.58 8.04 7.51 5.64 5.29	911.76 913.70 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05 906.66 906.35 906.63 906.37 908.63 906.77 908.57 908.73
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 8/7/96 11/21/96	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86 5.58 8.04 7.51 5.64 5.29 5.48 7.32	911.76 913.70 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05 906.66 906.35 908.63 908.63 908.63 908.73 908.73 908.73
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 11/21/96 3/27/97	10.14 8.20 9.39 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86 5.58 8.04 7.51 5.64 5.29 5.48 7.32 4.05	911.76 913.70 912.51 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05 906.66 906.35 908.63 906.17 906.70 908.57 908.92 908.73 906.89 910.16
MW-7	914.21	9/9/94 1/10/95 4/17/95 7/18/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 8/7/96 11/21/96	10.14 8.20 9.39 9.33 6.08 6.77 7.06 9.15 6.42 7.90 8.50 7.78 7.46 3.16 4.21 3.16 7.55 7.86 5.58 8.04 7.51 5.64 5.29 5.48 7.32	911.76 913.70 913.70 912.51 912.57 915.82 915.13 914.84 912.75 915.43 914.00 913.40 914.12 906.75 911.05 910.00 911.05 906.66 906.35 908.63 908.63 908.63 908.73 908.73 908.73

Notes: PVC pipe elevations were referenced to the rim of the sanitary sewer within Jefferson Street which has a mean sea level elevation of 932.17 feet.



#### SUMMARY OF GROUNDWATER ELEVATION DATA

### TECUMSEH PRODUCTS COMPANY - EAST SECTION New Holstein, Wisconsin

	PVC PIPE		DEPTH TO	GROUNDWATER
WELL	ELEVATION		GROUNDWATER	ELEVATION
NUMBER		DATE	1	•
	(FEET)	DATE	(FEET)	(FEET)
MW-8	932.14	8/9/92	8.01	924.13
		5/5/93	6.54	925.60
•	1	6/9/93	2.33	929.81
		5/5/94	1.95	930.19
		9/9/94	7.14	925.00
		1/10/95	9.58	922.56
		4/17/95	5.77	926.37
		7/18/95	8.62	923.52
	1	10/2/95	8.96	923.18
		5/16/96	3.51	928.63
	l	7/9/96	4.58	
	·	8/7/96		927.56
	l		4.88	927.26
		11/21/96	7.74	924.40
	l	3/27/97	3.58	928.56
	1	6/10/97	4.43	927.71
		9/18/97	7.54	924.6
		9/29/99	7.11	925.03
MW-12	921.07	8/9/92	-	_
		5/5/93		_
		6/9/93		
		5/5/94	7.66	913.41
		9/9/94	7.00	- 15.618
		1/10/95		
	1 .	4/17/95	-	<u> </u>
•		7/18/95		
	*	10/2/95		-
		5/16/96	<del></del>	
		7/9/96	9.36	911.71
	l	8/7/96	10.10	910.97
		11/21/96	11.23	909.84
	1	3/27/97	9.28	911.79
	i	6/10/97	10.45	910.62
	1 .	9/18/97	11.03	910.04
	1	9/29/99	10.41	910,66
MW-13	916.64	8/9/92		_
MW-13	916.64	8/9/92 5/5/03		-
MW-13	916.64	5/5/93		
MW-13	916.64	5/5/93 6/9/93	3.80	 912.84
MW-13	916.64	5/5/93 6/9/93 5/5/94	3.80 1.48	912.84 915.16
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94	3.80 1.48 8.06	912.84 915.16 908.58
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95	3.80 1.48 8.06 8.29	912.84 915.16 908.58 908.35
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95	3.80 1.48 8.06 8.29 6.22	912.84 915.16 908.58 908.35 910.42
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95	3.80 1.48 8.06 8.29 6.22 8.18	912.84 915.16 908.58 908.35 910.42 908.46
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95	3.80 1.48 8.06 8.29 6.22 8.18 8.03	912.84 915.16 908.58 908.35 910.42 908.46 908.61
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84	912.84 915.16 908.58 908.35 910.42 908.46 908.61
MW-13	916.64	5/5/93 6/3/93 5/5/94 9/3/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/3/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03	912.84 915.16 908.58 908.35 910.42 908.46 908.61
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84	912.84 915.16 908.58 908.35 910.42 908.46 908.61
MW-13	916.64	5/5/93 6/3/93 5/5/94 9/3/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/3/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/21/96 3/27/97	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/2/196 3/27/97 6/10/97	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/21/96 3/27/97 9/18/97 9/29/99	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66
MW-13	916.64	5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/2/196 3/27/97 6/10/97 9/18/97	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66
		5/5/93 6/9/93 5/5/94 9/3/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/3/96 87/96 11/2/196 3/27/97 6/10/97 9/18/97 9/18/97 9/2/99 8/9/92	3.80 1.48 8.06 8.29 6.22 6.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 — 915.27
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/2/196 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/2/196 3/27/97 6/10/97 9/18/97	3.80 1.48 8.06 8.29 6.22 6.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/2/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73 7.01	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/2/196 3/27/97 6/10/97 9/18/97	3.80 1.48 8.06 8.29 6.22 6.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 87/96 11/2/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73 7.01	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82 912.54 911.37
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/117/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/18/97 9/18/97 1/5/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73 7.01 8.18 8.12	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82 912.54 911.37 911.43
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/2/196 3/27/97 6/10/97 9/18/97 9/18/97 9/18/97 4/17/95 1/10/95 4/17/95 1/10/95 4/17/95 1/10/95 4/17/95 1/18/95 1/10/95 5/16/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73 7.01 8.18 8.12 5.37	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82 912.54 911.37 911.43 914.18
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 87/96 11/2/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.75 7.01 8.18 8.12 5.37 5.38	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82 912.54 911.37 911.43 914.18
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/117/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/96 11/21/96 3/27/97 6/10/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 7/18/95 7/18/95 7/18/95 10/2/95 5/16/96 8/7/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73 7.01 8.18 8.12 5.37 5.38 5.75	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.62 912.54 911.37 911.43 914.18 914.17
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/117/95 7/18/95 10/2/95 5/16/96 7/9/96 11/21/96 3/27/97 6/10/97 9/18/97 9/18/97 9/29/99 8/9/92 5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 8/7/9/96	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73 7.01 8.18 8.12 5.37 5.38 5.75 7.96	912.84 915.16 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82 912.54 911.37 911.43 914.18 914.17 913.80 911.59
		5/5/93 6/9/93 5/5/94 9/9/94 1/10/95 4/17/95 7/18/95 10/2/95 5/16/96 7/9/96 11/2/196 3/27/97 6/10/97 9/18/97 9/18/97 9/18/97 9/18/97 1/10/95 4/17/95 1/10/95 4/17/95 1/10/95 4/17/95 1/10/95 4/17/95 1/10/95 4/17/96 1/1/96 3/27/97	3.80 1.48 8.06 8.29 6.22 8.18 8.03 8.84 4.69 5.60 7.62 4.51 7.32 7.56 6.98 4.28 3.42 8.06 8.73 7.01 8.18 8.12 5.37 5.38 5.75 7.96 4.43	912.84 915.16 908.58 908.58 908.35 910.42 908.46 908.61 907.80 911.95 911.04 909.02 912.13 909.32 909.08 909.66 915.27 916.13 911.49 910.82 912.54 911.37 911.43 914.18 914.17 913.80 911.59 915.12
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Notes: PVC pipe elevations were referenced to the rim of the sanitary sewer within Jefferson Street which has a mean sea level elevation of 932.17 feet.

#### McKnight, Kevin - DNR

From:

McKnight, Kevin - DNR

Sent:

Tuesday, August 23, 2016 1:08 PM

To:

McKnight, Kevin - DNR; Fassbender, Judy L - DNR

Subject:

Tecumseh - Fill Area @ MW-1 Closure Question

Judy, Does this information accurately reflect our discussion? I added some additional information I found on BRRTS. Thanks for your time.

BTW, My computer will need to be reimaged to fix whatever software problem is going on stopping me from using the EPA software.

Link to scan of closure packet

\\Greenbay\RR\ NER E FILES\Calumet 08\0208193776 TECUMSEH-FILL AREA @ MW-

1\ CLOSURE PACKET\0208193776 Closure Packet.pdf

8/23/2016 Discussion with Judy Fassbender regarding PCB issue at site.

Tecumseh – Fill Area @ MW-1 02-08-193776

Conditional closure letter sent on August 4, 2004 requiring abandonment of MW-1 as the only condition of closure. Well was thought to be associated with other open sites.

May 4, 2011- Confirmation of abandonment received. Final closure letter never sent.

During review of two Tecumseh case closure requests (03-08-100332 & 03-08-001071) it was noted that MW-1 was not part of these investigations in the area so the file was reviewed to determine status. Upon finding the abandonment form in the file the closure request was reviewed to allow for drafting of final closure letter.

#### Highlights:

- PVOC's in the area noted to be associated with other nearby cases. BRRTS Case 03-08001070
   Tecumseh Products East TA 20,21,26 has this location in the GIS packet (closed 8/6/2004)
- 3 Soil borings with 3 samples each analyzed for PCB's. GP-6A (0-2') had 1.5 mg/kg Aroclor 1254 (MDL 1.4mg/kg) No other detections noted.
- Case closure signed by project manager with note that Urben and Polczinski concurred with no
  action needed.

#### Issue:

This detection is above both soil-gw RCL and DC currently.

#### Conclusion:

Based on multiple samples not exceeding detection limit for 8 PCB's and only 1 detection above MDL (0.1mg/kg over) further action is not needed however language should be added to the closure letter noting this.

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
2984 Shawano Avenue
Green Bay WI 54313-6727

Scott Walker, Governor Cathy Stepp, Secretary Telephone 608-266-2621 Toll Free 1-888-936-7463 TTY Access via relay - 711



August 30, 2012

Alyssa Sellwood, P.E. TRC Solutions, Inc. 708 Heartland Trail Suite 3000 Madison, Wisconsin 53717

Subject:

Confirmed Approval of the Report, Status Update CVOC Plume Delineation, PVOC Plume Conditions, and MW-1 Abandonment, Tecumseh Products Company, New Holstein, Wisconsin, WDNR BRRTS #: 02-08-100332, 03-08-001071, 02-08-193776

Dear Ms. Sellwood:

This letter is to confirm the March 28, 2012 email approval by myself of the above report and the proposed sampling plan contained therein. The report and the review fee were received on March 14, 2012. TRC wanted to begin sampling at the site during the week of March 26, 2012. Because I would not have time to do a complete review of the report and I did not want to hold up work at the site, I gave an approval of the spring sampling round as proposed. With this letter, I am also approving the fall sampling round.

Jason Smith (Tecumseh Products Company) and I met today to discuss the upcoming fall sampling round and the site groundwater sampling results of Robert E. Lee & Associates (REL). REL had been hired by the City of New Holstein under the Wisconsin Plant Recovery Initiative Grant to conduct an environmental investigation on those parts of the Tecumseh property not being covered by any of the currently on-going environmental investigations.

Based on the REL data, it would appear that some additional groundwater monitoring points will need to be added to TRC's monitoring plan – at least to the CVOC Plume investigation. Jason and I agreed that we would wait on the completion of the REL investigation before determining which monitoring points should be added. As such, we will look at making any needed changes to the 2013 sampling events and keep the 2012 sampling as proposed.

If you have any questions regarding this letter, please contact me at the address above, by calling 920-662-5161, or by email at alan.nass@wisconsin.gov . Thank you Alyssa.

Yours truly,

Alan Thomas Nass, P.G., P.S.S.

Hydrogeologist

Bureau for Remediation and Redevelopment

Cc: Jason Smith, Tecumseh Products Company

Tom Stolzenburg, TRC – electronic copy

#### Nass, Alan T - DNR

From:

Sellwood, Alyssa [ASellwood@trcsolutions.com]

Sent:

Wednesday, March 28, 2012 9:50 AM

To:

Nass, Alan T - DNR

Subject:

RE: Tecumseh Products

Attachments: 2012 Monitoring Program Note.xlsx

Thank you Al. I appreciate your quick response, recognizing the limited time allowed between the submittal and the spring sampling.

I attached an Excel file with some quick notes on our sampling program that may be our use to you in your review of the wells included/not included in the sampling program.

I believe MW-06, MW-19D, and MW-20 are the only wells with NR 140 ES exceedences that were omitted from the sampling program. In each case we felt that other wells in proximity to these wells could be used to delineate the plume. However, if after you have time to complete your review, you would like these back in the program, we will be prepared to sample these in the fall (at your direction).

Thank you-

Alyssa Sellwood, P.E. Project Engineer



708 Heartland Trail, Suite 3000 Madison, WI 53717 T: 608.826.3658 | F: 608.826.3941 | C: 608.234.8001 asellwood@trcsolutions.com
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Alyssa

**From:** Nass, Alan T - DNR [mailto:Alan.Nass@wisconsin.gov]

Sent: Wednesday, March 28, 2012 8:28 AM

To: Sellwood, Alyssa

Subject: Tecumseh Products

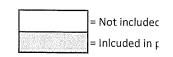
Importance: High

Hello Alyssa - I did a quick look at the TRC report titled *Status Update CVOC Plume Delineation, PVOC Plume Conditions, and MW-1 Abandonment - Tecumseh Products Company*, and dated March 2012. I know your crew started sampling out there this week. Having only received the report on the 14th, I haven't had time to look at the report in any detail before TRC started the spring sampling round. I have some questions - for example why some impacted wells were left out of the planned sampling all together or for at least the spring round. Because I don't have time to do much of a detailed review right now, please continue with the spring sampling as described in the report with the knowledge that the plan for fall may change. When I get my review completed, I'll contact you. Thanks.

This email has been scanned by the Symantec Email Security.cloud service. For more information please visit <a href="http://www.symanteccloud.com">http://www.symanteccloud.com</a>

# Notes on Sampling Program Proposed Groundwater Monitoring Plan – 2012 Tecumseh – New Holstein, Wisconsin

	SPRING	FALL	Notes of Wh	y not Sampled
WELL ID	ANALYTICAL PROGRAM <sup>(1)</sup>	ANALYTICAL PROGRAM <sup>(1)</sup>	CVOCs	PVOCs
Monitoring Wells		100 m		
MW-02/02R			Clean	Clean
MVV-06			Vinyl Chloride>ES (near MW-14)	Benzene>PAL
MW-15P			TCE>PAL	Clean
MW-17			Clean	Clean
MW-18			Clean	Clean
MW-19D			TCE >ES (Similar to MW-19P)	Clean
MW-25			Clean	Clean
MW-25D			Clean	Clean
MW-27			Clean (missing)	Clean (missing)
MW-27D			Clean (missing)	Clean (missing)
MW-32			Clean (Upgradient)	Clean (Upgradient)
MW-32D			Clean (Upgradient)	Clean (Upgradient)
MW-07	X	XX		
MW-09	X	X		and the state of the state of the state of
MW-12	X	X	The control of the co	
MW-13	X	X		
MW-14	X	X		
MW-16	X	X		
MW-11			Clean	Clean
MW-19P	X	X	100 Pt. 200	and the second second second
MW-20			PCE>ES (Similar to MW-9)	Clean
MW-18P			Clean	Clean
MW-21	X	X	ingen St. 1888 in St. Special St. St.	
MW-23D	X	X		
MW-22	X	X		
MW-22P	X	X	1 Page 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
MW-24	X	X		



d in proposed program (at least one round) proposed program





# Status Update CVOC Plume Delineation, PVOC Plume Conditions, and MW-1 Abandonment

Tecumseh Products Company New Holstein, Wisconsin

WDNR BRRTS #: 02-08-100332, 03-08-001071, 02-08-193776

March 2012

Prepared For Tecumseh Products Company

Nate Keller, P.G.

Project Hydrogeologist

Alyssa Sellwood, P.E.

Project Manager

Tom Stolzenburg, Ph.D.

Client Service Manager

#### Nass, Alan T - DNR

From: Sellwood, Alyssa [ASellwood@trcsolutions.com]

Sent: Wednesday, March 14, 2012 3:35 PM

To: Nass, Alan T - DNR

Subject: RE: Receipt of status update & fee - Former Tecumseh Products Company

Thanks for the response. We'll be in touch.

Alyssa Sellwood, P.E. Project Engineer



708 Heartland Trail, Suite 3000 Madison, WI 53717 T: 608.826.3658 | F: 608.826.3941 | C: 608.234.8001 asellwood@trcsolutions.com
Follow us on LinkedIn or Twitter | www.trcsolutions.com

From: Nass, Alan T - DNR [mailto:Alan.Nass@wisconsin.gov]

Sent: Wednesday, March 14, 2012 3:31 PM

To: Sellwood, Alyssa

Subject: Receipt of status update & fee - Former Tecumseh Products Company

Hello Alyssa - Today I received the TRC report *Status Update CVOC Plume Delineation, PVOC Plume Conditions, and MW-1 Abandonment*, dated March 2012. I also received the fee for technical assistance. I need to finish up another project, but I hope to start on your submitted report tomorrow / early next week. Thanks for the telephone call earlier today.

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708 Heartland Trail Suite 3000 Madison, WI 53717

508.826.3600 PHONE 608.826.3941 FAX

www.TRCsolutions.com

March 13, 2012

Mr. Al Nass Hydrogeologist Wisconsin Department of Natural Resources 2984 Shawano Avenue Madison, WI 54313

Subject: Status Update: Former Tecumseh Products Company Facility - New Holstein, WI

MONR CREEN BAL

BRRTS #02-08-100332: CVOC Plume BRRTS #03-08-001071: PVOC West BRRTS #02-08-193776: MW-1 Fill Area

Dear Mr. Nass:

Enclosed is the 2011 Status Report for the former Tecumseh Products Company (TPC) facility in New Holstein, Wisconsin. The report documents the following:

- Installation of six downgradient monitoring wells
- Delineation of the CVOC plume is complete
- Natural attenuation of the PVOC and CVOC plumes is evident
- Abandonment of MW-1 is complete

We have recommended semi-annual groundwater monitoring program to determine the on-going natural attenuation trend and plume stability for the CVOC and PVOC impacts. TPC is requesting WDNR approval of the proposed monitoring program, and a check for \$500 to cover the review fee is included with this transmittal.

Please note that TRC plans to complete the spring sampling event the week of March 26, 2012. If you would like to discuss the proposed groundwater program prior to the March sampling, please contact me at 608-826-3658.

Sincerely,

TRC Environmental Corporation

Alyssa Sellwood, P.E.

Aupsa Sellice

Project Manager

Enclosed Status Update Report

Check #778467 for \$500

cc: Jason Smith – TPC (pdf of CD)

Tom Stolzenburg, John Rice, Nate Keller – TRC

#### Nass, Alan T - DNR

From:

Sellwood, Alyssa [ASellwood@trcsolutions.com]

Sent:

Tuesday, February 28, 2012 1:52 PM

To:

Nass, Alan T - DNR

Subject:

Tecumseh New Holstein -BRRTS# 02-08-193776

Attachments: TPC New Holstein\_05.04.2011 Letter.pdf

Αl

Attached is a copy of a letter documenting well abandonment for BRRTS #02-08-193776 (Tecumseh New Holstein Fill Area) dated May 4, 2011. I see that this letter is not include in the BRRTS database, perhaps indicating that you never received it. As we work to finalize the documentation report for the 2011 work completed at the site, I would like to include reference that this project has been closed out.

Could you please review the attached letter, and let me know if WDNR agrees the conditions of closure have been met for #02-08-193776, and if final closure has been granted.

Please feel free to contact me with any questions, or if you need us to provide you with a new hard copy.

Thank you-

Alyssa Sellwood, P.E. Project Engineer



708 Heartland Trail, Suite 3000 Madison, WI 53717 T: 608.826.3658 | F: 608.826.3941 | C: 608.234.8001 asellwood@trcsolutions.com
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May 4, 2011

Mr. Alan Nass Pollution Remediation Division Wisconsin Department of Natural Resources 2984 Shawano Avenue PO Box 10448 Green Bay, WI 53313-0436

Subject: Final Closure Condition Met – Abandonment of MW-1
East Section Fill Area - Tecumseh Products Company
1604 Michigan Avenue, New Holstein, Wisconsin
BRRTS # 02-08-193776, FID 408020690

Dear Mr. Nass:

Tecumseh Products Company (TPC) completed investigation of the impacts to soil and groundwater associated with the fill area on the east side of the former TPC facility located at 1604 Michigan Avenue, New Holstein, Wisconsin (Site Map - Attachment A). TPC requested closure for the fill area from the Wisconsin Department of Natural Resources (WDNR) in March 2000. The WDNR responded in May 2000 stating that additional data was needed. TPC submitted the additional information to the WDNR in May 2003, and closure was approved by the WDNR in a letter dated August 4, 2004. The WDNR's only condition of closure for the fill area was the abandonment of monitoring well MW-1.

During review of historical files for the site, RMT, Inc. (RMT), found records that MW-1 was abandoned on June 21, 2006. The well was abandoned by SES, Inc. (SES), and the work was overseen by RMT. To abandon the well, SES removed the pro-top flush mount casing, overdrilled the well to a depth of 19 feet, removed the casing, and backfilled the borehole with bentonite chips. The well abandonment form for MW-1 is included in Attachment B, and the original well construction log is included in Attachment C. (Please note that the well construction log was only obtained recently by RMT, and was not available at the time of the well abandonment).

Documentation of the well abandonment was previously submitted to the WDNR by RMT as Attachment 2 to a letter report dated April 19, 2007. The purpose of the 2007 letter was to document the construction of five new wells and delineate the chlorinated volatile organic compound (CVOC) plume at the site (BRRTS # 02-08-100332). Monitoring well MW-1 was abandoned by SES during their mobilization to the site to construct the five new wells. It appears that the abandonment was

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#### State of Wisconsin Department of Natural Resources

MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 4-90

Route to: Solid Env. Response &		Vaste Wastewater Dierground Tanks On			
Facility/Project Name	County Name		Well Name	······	_
Techniseh		Rock		MILL	) - <i>[</i>
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Wall N	umber	DNR W	ell Number
Annual related desired about the second about actions	54	# (% <u> </u>			
1. Can this well be purged dry?	Yes 🗆 No		Before Deve	elonmeni	After Development
		11. Depth to Water			
2. Well development method		(from top of	<u> _ /2</u> .	<u>D /_</u> ft.	_ <u>DR.Y</u>
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surged with bailer and pumped					
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	62		mm do	yy	mmddyy
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	10	12 6-4:			
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pumped slowly Other	5 0	1			
Other	<u></u>	13. Water clarity	Clear 🔲 10		Clear 1,20
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Time spent developing well	D_min.	1	(Describe)		(Describe)
. Depth of well (from top of well casing)	1fL		V284 31	1+14	
bepar of wen (nom up of wen easing)	// · 14.				
. Inside diameter of well	in.				
. Volume of water in filter pack and well					
	<u> </u>				
	⊆ - ∠ gal.	Find the following of the			
Volume of water removed from well	gal.	Fill in if drilling fluid	were used and	well is at	solid waste facility:
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Volume of water added (if any)	· gal.	solids			
Source of water added		15. COD		mg/l	mg/l
Analysis performed on water added?	■ □ N <sub>0</sub>				
(If yes, attach results)					
. Additional comments on development:					
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May 4, 2011

Mr. Alan Nass Pollution Remediation Division Wisconsin Department of Natural Resources 2984 Shawano Avenue PO Box 10448 Green Bay, WI 53313-0436



Subject: Final Closure Condition Met – Abandonment of MW-1 East Section Fill Area - Tecumseh Products Company 1604 Michigan Avenue, New Holstein, Wisconsin BRRTS # 02-08-193776, FID 408020690

Dear Mr. Nass:

Tecumseh Products Company (TPC) completed investigation of the impacts to soil and groundwater associated with the fill area on the east side of the former TPC facility located at 1604 Michigan Avenue, New Holstein, Wisconsin (Site Map - Attachment A). TPC requested closure for the fill area from the Wisconsin Department of Natural Resources (WDNR) in March 2000. The WDNR responded in May 2000 stating that additional data was needed. TPC submitted the additional information to the WDNR in May 2003, and closure was approved by the WDNR in a letter dated August 4, 2004. The WDNR's only condition of closure for the fill area was the abandonment of monitoring well MW-1.

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Mr. Alan Nass Wisconsin Department of Natural Resources May 4, 2011 Page 2

inadvertently omitted from the discussion of the report, since the focus of the report centered on the delineation of the CVOC impacts.

With this submittal, the final condition of closure for the fill area is complete, and RMT on behalf of TPC requests the WDNR approve final closure for BRRTS #02-08-193776.

Please feel free to contact me at 608-662-5480 with any questions. We look forward to confirmation of final closure for this portion of the site.

Sincerely,

RMT, Inc.

Alyssa Sellwood Project Engineer

Attachments Attachment A - Site Figure from Key Environmental Group, Ltd.

Attachment B - Well Abandonment Form

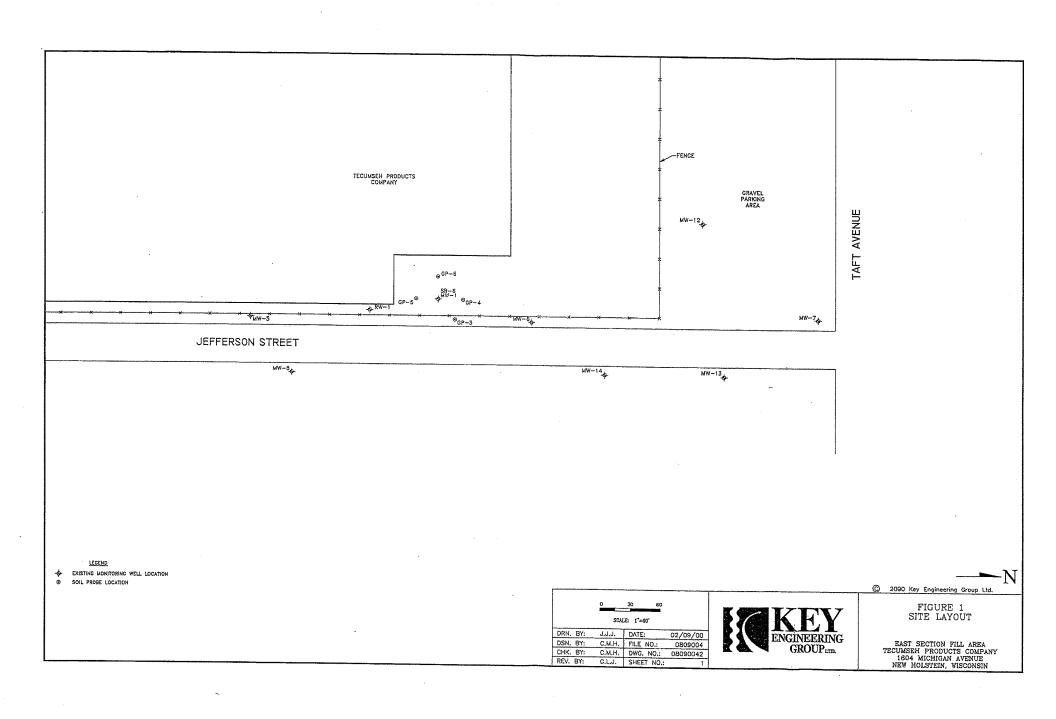
Attachment C – Original Well Construction Form

cc: Jason Smith, TPC

Tom Stolzenburg, RMT

Aupsu Sellewel

Attachment A – Site Figure from Key Environmental Group, Ltd.



Attachment B - Well Abandonment Form

State of Wisconsin
Department of Natural Resources

## WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Water Watershed/Wastewater Waste Managen	nent 🔀 Remediation/Redevelopment 🔲 Other							
(I) GENERAL INFORMATION	(2) FACILITY /OWNER INFORMATION							
WI Unique Well No. DNR Well ID No. County	Facility Name							
Calumet	Tecumseh - New Holstein							
Common Well Name MW-1 Gov't Lot (if applicable)	Facility ID License/Permit/Monitoring No.							
1/4 of 1/4 of Sec. : T N: R	Street Address of Well							
1/4 of 1/4 of Sec ; T N; R 🔲 E	1604 Michigan Ave.							
ft. N. S.,ft. E, W.	City, Village, or Town							
Local Grid Origin (estimated: ) or Well Location	New Holstein							
	Present Well Owner Original Owner							
Lat long or	Tecumseh Tecumseh							
State Planeft. Nft. E ft. E. Zone	Street Address or Route of Owner 1604 Michigan Ave.							
Reason For Abandonment   WI Unique Well No.	City, State, Zip Code							
Testing completed of Replacement Well	New Holstein, WI 53061							
	(4) PUMP. LINER, SCREEN, CASING, & SEALING MATERIAL							
(1011000)								
	Pump & Piping Removed?							
Monitoring Well  If a Well Construction Report	Screen Removed? Yes No Not Applicable							
is available, please attach	Casing Left in Place?  Yes No							
Drillhole / Borehole	Was Casing Cut Off Below Surface? Yes No							
Construction Type:	Did Sealing Material Rise to Surface? Yes No							
Drilled Driven (Sandpoint) Dug	Did Material Settle After 24 Hours? Yes No							
Other (Specify)	If Yes, Was Hole Relopped? Yes No							
Formation Type:	Required Method of Placing Sealing Material							
Unconsolidated Formation Bedrock	Conductor Pipe - Gravity Conductor Pipe - Pumped							
	Screened & Poured Other (Explain)							
Total Well Depth (ft) Casing Diameter (in.)(From ground surface)	(Bentonite Chips)							
Casing Depth (ft.)	Sealing Materials For monitoring wells and							
Lower Drillhole Diameter (in.)	Neat Cement Grout monitoring well boreholes only							
Was Well Annular Space Grouted? Yes No Unknown	Sand-Cement (Concrete) Grout Concrete  Bentonite Chips							
	Concrete  Clay-Sand Slurry  Clay-Sand Slurry  Granular Bentonite							
If Yes, To What Depth? Feet	Bentonite-Sand Slurry Bentonite-Cement Grout							
Depth to Water (Feet)	Chipped Bentonite							
(5) Scaling Material Used	From (Ft.) To (Ft.) Mix Ratio							
*	or Mud Weight							
Bentonite chips	Surface 19.0							
N. D. C.								
(6) Comments No well construction information available - well overdrilled to	o 19 feet bgs and backfilled with bentonite.							
(2)								
(7) Name of Person or Firm Doing Sealing Work  Date of Abandonmer								
SES, Inc. 6/21/06 Signature of Person Doing Work Date Signed	FOR DNR OR COUNTY USE ONLY							
Signature of Person Doing Work Date Signed 4/19/07	Date Received Noted By							
Street or Route Telephone Number	Composite and the control of the cont							
1102 Stewart Street (608) 274-7600	Comments							
City, State, Zip Code	The state of the s							
Madison, WI 53713								

Attachment C – Original Well Construction Form

State of Wisconsin Route to: Se	olid Waste Haz. Waste	☐ Wastewater ☐ ound Tanks ☐ Other ☐	MONTTORING WELL CONSTRUCT Form 4400-113A Rev.
Project Name	Local Grid Location of	Well	Well Name MW1 SB6
Products Co.	Grid Origin Location	n. DE.	Wis. Unique Well Number DNR Well Num
scility License, Permit or Monitoring Number		Long or	
			Data Wall Installed
e of Well Water Table Observation Well 211	1 Table 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- In Course	10 m /30 d d /91
Piczometer 112 ance Well Is From Waste/Source Boundary	Section Location of Wa	ec. 10T.17 N, R20 W.	Well Installed By: (Person's Name and Firm
ft.	Location of Well Relati	ve to Waste/Source	Gary Wellner
Well A Point of Enforcement Std. Application?	u 🔲 Upgradient	s 🔲 Sidegradient	Twin City Testing
☐ Yes ☐ No	d Downgradient	n □ Not Known 1. Cap and lock	
Protective pipe, top elevation - 500 - 96	ft. MSL	2. Protective co	·
943.3	fl. MSL	a Inside diam	• •
19511 40	t :	b. Length:	_1.
Land surface elevation 944-0		c. Material:	Steel 🗀
. Surface seal, bottom ft MSL or _	n. Casa A. I.	Cast	Aluminum Oher
2 USCS classification of soil near screen:	~ (1989) A	d. Additional	protection? XYES LI
GP GM GC GW SW GSM SC ML MH CL G	SP. II	If yes, des	cribe:Expansion Cap Bentonite
SM D SC D MLD MHU CL D	CH L	3, Surface seal:	Concrete 🖾
Bedrock ☐  3. Sieve analysis attached? ☐ Yes ☐	1 No		Other 🗆
		4. Material bety	veen well casing and protective pipe:
4. Drilling method used: Rotary Hollow Stem Auger	941		Bentonite 🗆
Other C	i <u>(2</u>		Annular space seal
	1 🔛	Sand	Other 🗆
5. Drilling fluid used: Water 02 Air	] 01	5. Annular space	ce seal:
Drilling Mud 🗆 03 None 💆	# <sup>99</sup>	bLbs/	gal mud weight Bentonite-sand slurry
16. Drilling additives used?   Yes	§ No   ₩	cLbs/	gal mud weight Bentonite slurry centonite Bentonite-cement grout
The state of the s		0.5	_Ft 3 volume added for any of the above
Describe		f. How insu	Tr:_ i_ i_
17. Source of water (attach analysis):			Tremie pumped
			Gravity 💆
			al: a. Bentonite granules
Bentonite seal, top ft. MSL or _	tı~ 🔯		n. 3/8 in. 1/2 in, Bentonite pellets
	\ W	C	aterial: Manufacturer, product name & mes
F. Fine sand, top fi. MSL or _	5 ft.	Badge	er Mine Silica
G. Filter pack, top ft. MSL or _	6 ft.	h. Volume s	odded 0.5 ft <sup>3</sup>
G. Filter pack, top n. MSL or _		8. Filter pack r	naterial: Manufacturer, product name and m
H. Screen joint, top ft. MSL or _	_8 n8	Red_	Flint
		b. Volume	
. Well bottom ft. MSL or _	.18 ft	9, Well casing	: Flush threaded PVC schedule 40 D Flush threaded PVC schedule 80 D
0.3407	10 6		Other L
. Filter pack, bottom ft. MSL or _	18 ft.	10 Someon male	rial: Schedule 40 PVC
K. Borehole, bottom ft. MSL or _	18 n.	L Screen to	
K. Borehole, bottom ft. MSL or _			Continuous slot
Borehole, diameter 8 in.			Other D
_ Borehole, diameter 8 in.			nurer TIMCO
M. O.D. well casing $225$ in.		c. Slot size	
		d Slotted I	·
N. I.D. well casing 12.0 in.		II. Backfill mai	terial (below filter pack): None C
	1 F. J	parrent to the heat of my	
I hereby certify that the information on t	this form is true and	COLLECT TO THE DESCRIPTION	Mioriogo,
o.B.immit G	1 1111	,	

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Sta and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin Department of Natural Resources MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 4-90

Route to: Solid Waste Haz. Waste Wastewater Env. Response & Repair Underground Tanks Other . County Name Calumet ERMT-2011 Facility/Project Name 11167-1 Technisch Facility License, Permit or Monitoring Number Wis. Unique Wall Number County Code DNR Well Number 54 ĭ Yœ □ No 1. Can this well be purged dry? Before Development After Development Depth to Water (from top of 2. Well development method 12.01 ft. well casing) surged with bailer and bailed 囡 41 surged with bailer and pumped 61 surged with block and bailed 42 surged with block and pumped 62 surged with block, bailed and pumped 70 c. 10:00 p.m. 11:00 Ba.m. compressed air 20 Time bailed only 10 12. Sediment in well pumped only 51 \_\_\_ inches \_\_ . \_\_ inches pumped slowly bottom 50 Other 13. Water clarity Clear 🔲 10 Clear D 20 Turbid 15 Turbid 🛭 25 . 50 min. 3. Time spent developing well (Describe) (Describe) \_\_/\$.\_\_fL 4. Depth of well (from top of well casing) 5. Inside diameter of well ≥2.\_\_in. 6. Volume of water in filter pack and well casing Fill in if drilling fluids were used and well is at solid waste facility: 7. Volume of water removed from well 14. Total suspended 8. Volume of water added (if any) solids 9. Source of water added 15. COD \_ mg/l 10. Analysis performed on water added? ☐ Yœ (If yes, attach results) 16. Additional comments on development: purged dry within 10 gallons. After 30 min. recovered 4 gallons. Well developed by: Person's Name and Firm I hereby certify that the above information is true and correct to the best of my knowledge. Kristine Stehr Signature: Name: Print Initials: Firm: KILLIS + PROOKE Firm:

;	State of Departi	(Wiscon	ısin Natur	al Resou	ırces		Route T	Waste		D U	az. Waste adergrour	ıd Tanl			3OR 11 4400-		LOC	3 IN	FOR	LMA'	<b>TION</b> 7-91	
							□ Emerg	ency Respo	onse		her			***************************************				Page	_ 1	_ of _	1	
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						npany					<b> </b>						l	5	8B-6	ľ		
	Boring	Drilled	By (F	rm name		me of cre		· · · · · · · · · · · · · · · · · · ·			Date Dr	illing S	tarted		Date	Drilling	Comple	ted	Drilli	ng Meth	od	
	Twir	n City	Test	ing	Gar	ry Well	ner						0 /_!			) / 3		91	1		v-stem	
G	DNR I	acility V	vell N	o. W	Unique	e Well N	<b>o.</b> (1)	Common	Well Na	me	MM Final Sta			/ Y		ce Eleva		<u>Y</u>		Auger 3 1/4" i.d. Borehole Diameter		
	and the second				Addicate date				W-1						042				ļ	_		
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	Number	Length Recovered (in)	Slow Counts	Depth in Feet			Eac	:h Majo	r Unit			uscs	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Molsture		Plastic Umit	P 200	RQD/ Comments	
					<del> </del>											<del> </del>	-			<u> </u>		
6-	1	19	13	E	1-3'			pebbles, g ck, paint ch			vinns ps	SP			57.2							
	Ì			E				D: silty, gre				Ī'			2.5							
					ĺ																	
6-	2	16	5		4-6'	SAND:	Top 2" sil	ty, brown -	arev. a	ravel a	nd	SP									slight odor	
_	_			5		pebble	s, some d	rganics							1011						petroleum	
				E		pyrite (	trace), so	D: silty, bro ne green s	own, co: staining	urse, ro , moist	undry as	,									odor	
6-	3	14	10	E	7 <del>-9</del> '	Fill: To	p 10" sarx	i, siity, grav	vel, woo			SM			1.0						odor	
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6-	4	19	7	10	10-12'	SILT: s	andy, tan,	pebbles a	and grav	vel, we	t	SM			0.3						no odor	
				E																•		
																	-					
6-	5	14	5	E	13-15'	SAND:	ailty, grav	el and peb	bles, w	ater be	aring	SM			0.4						no odor	
	1			_																		
* 6-			_	15																		
· O-	0	24	5	E	16-18	SILT: &	andy, pei	obles and g	gravel (	trace),	wet	SM			0.0						no odor	
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6	-7	2	Bounced		19-21'	Same a	as above,	water bea	urina			SM							l			
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This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfest not less than \$10 mor more than \$5,000 for each violation. Fined not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of command violation is a seperate offense, pursuant to as 144.99 and 162.06, Wis. Stats



May 4, 2011

Mr. Alan Nass Pollution Remediation Division Wisconsin Department of Natural Resources 2984 Shawano Avenue PO Box 10448 Green Bay, WI 53313-0436 RECEIVED

MAY 06 2011

WI DNR - GREEN BAY

Subject: Final Closure Condition Met – Abandonment of MW-1 East Section Fill Area - Tecumseh Products Company 1604 Michigan Avenue, New Holstein, Wisconsin BRRTS # 02-08-193776, FID 408020690

Dear Mr. Nass:

Tecumseh Products Company (TPC) completed investigation of the impacts to soil and groundwater associated with the fill area on the east side of the former TPC facility located at 1604 Michigan Avenue, New Holstein, Wisconsin (Site Map - Attachment A). TPC requested closure for the fill area from the Wisconsin Department of Natural Resources (WDNR) in March 2000. The WDNR responded in May 2000 stating that additional data was needed. TPC submitted the additional information to the WDNR in May 2003, and closure was approved by the WDNR in a letter dated August 4, 2004. The WDNR's only condition of closure for the fill area was the abandonment of monitoring well MW-1.

During review of historical files for the site, RMT, Inc. (RMT), found records that MW-1 was abandoned on June 21, 2006. The well was abandoned by SES, Inc. (SFS), and the work was overseen by RMT. To abandon the well, SES removed the pro-top flush mount casing, overdrilled the well to a depth of 19 feet, removed the casing, and backfilled the borehole with bentonite chips. The well abandonment form for MW-1 is included in Attachment B, and the original well construction log is included in Attachment C. (Please note that the well construction log was only obtained recently by RMT, and was not available at the time of the well abandonment).

Documentation of the well abandonment was previously submitted to the WDNR by RMT as Attachment 2 to a letter report dated April 19, 2007. The purpose of the 2007 letter was to document the construction of five new wells and delineate the chlorinated volatile organic compound (CVOC) plume at the site (BRRTS # 02-08-100332). Monitoring well MW-1 was abandoned by SES during their mobilization to the site to construct the five new wells. It appears that the abandonment was

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Mr. Alan Nass Wisconsin Department of Natural Resources May 4, 2011 Page 2

inadvertently omitted from the discussion of the report, since the focus of the report centered on the delineation of the CVOC impacts.

With this submittal, the final condition of closure for the fill area is complete, and RMT on behalf of TPC requests the WDNR approve final closure for BRRTS #02-08-193776.

Please feel free to contact me at 608-662-5480 with any questions. We look forward to confirmation of final closure for this portion of the site.

Sincerely,

RMT, Inc.

Alyssa Sellwood

Project Engineer

Attachments Attachment A – Site Figure from Key Environmental Group, Ltd.

Attachment B – Well Abandonment Form

Attachment C – Original Well Construction Form

cc: Jason Smith, TPC

Tom Stolzenburg, RMT

Aupsa Silline

Attachment A – Site Figure from Key Environmental Group, Ltd.

Attachment B – Well Abandonment Form

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT . Form 3300-5 2/2000 Page 1 of 2

s William States		
	γ. Στ.	
	State of Wisconsin Department of Natural Resources	WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2
	Notice: Please complete Form 3300-5 and return it to the appropriate DNR office at 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to on information on this form is not intended to be used for any other purpose. NOTE: §	ind bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, ce with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form the year, depending on the program and conduct involved. Personally identifiable See the instructions for more information.
	Route to: Drinking Water Watershed/Wastewater Waste Manager	
	(I) GENERAL INFORMATION WI Unique Well No. DNR Well ID No. County	(2) FACILITY /OWNER INFORMATION Facility Name
	Calumet	Tecumseli - New Holstein
The state of the s	Common Well Name MW-1 Gov't Lot (if applicable)	Facility ID License/Permit/Monitoring No.
	1/4 of1/4 of Sec; TN; R E	Street Address of Well 1604 Michigan Ave.
		City, Village, or Town
	Local Grid Origin (estimated: ) or Well Location	New Holstein Present Well Owner Original Owner
	Lat Or	Tecumseh Tecumseh
	State Planeft. Nft. E. C N Zone	Street Address or Route of Owner 1604 Michigan Ave.
<b>沙</b> 斯夫	Reason For Abandonment WI Unique Well No.	City, State, Zip Code
A Salar	Testing completed of Replacement Well  (3) WELL/DRILLHOLE/BOREHOLE INFORMATION	New Holstein, WI 53061 (4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
	Original Construction Date 6/21/2006	Pump & Piping Removed?
स स	Monitoring Well	Liner(s) Removed?
*	Water Well  Drillhole / Borehole	Screen Removed?  Casing Left in Place?  Yes No No Not Applicable Yes No
	☑ Drillhole / Borehole  Construction Type:	Was Casing Cut Off Below Surface? Yos No
	Drilled Driven (Sandpoint) Dug	Did Sealing Material Rise to Surface?  Did Material Settle After 24 Hours?  Yes No
	Other (Specify)	If Yes, Was Hole Retopped?
	Formation Type:	Required Method of Placing Sealing Material
:	Unconsolidated Formation Bedrock	Conductor Pipe - Gravity  Conductor Pipe - Pumped  Screened & Poured  Other (Explain)
	Total Well Depth (ft) Casing Diameter (in.) (From ground surface)	(Bentonite Chips)
	Casing Depth (ft.)	Sealing Materials For monitoring wells and Neat Cement Grout monitoring well boreholes only
•	Lower Drillhole Diameter (in.)	Sand-Cement (Concrete) Grout
	Was Well Annular Space Grouted? Yes No Unknown	Clay-Sand Slurry    Clay-Sand Slurry    Granular Bentonite
;	If Yes, To What Depth? Feet	Bentonite-Sand Slurry Bentonite-Cement Grout
	Depth to Water (Feet)	Chipped Bentonite   Bentonite - Sand Slurry
	(3) Scaling material Osed	From (Ft.) To (Ft.) Mix Ratio or Mud Weight
	Bentonite chips	Surface 19.0
,		
•		
•	(6) Comments No well construction information available - well overdrilled	to 19 feet bgs and backfilled with bentonite.
	- A	
	(7) Name of Person or Firm Toing Sealing Work  SES, Inc.  Date of Abandonme 6/21/06	ent FOR DIN OR COUNTY USE ONLY
-	Signature of Persun Doing Work Date Signed	Date Received Noted By
	Street or Route Telephone Number	Comments
-	1102 Stewart Street (608) 274-7600  City, State, Zip Code	
	Madison, WI 53713	

Attachment C – Original Well Construction Form

Desire   D	State of Wisconsin Department of Natural Resources	Route to: Solid Was	Haz, Waste	Wastewater 🗆		MONITORING WE Form 4400-113A	LL CONSTRU	JCT1C ev. 4-9
Continue		Local	Grid Location of We	0 i i	144 011 1	Name MW1 S	SB6	
Specific   Water Table Observation   Well   Bit	- Products	Co	tr. 🗀 s.	II.	UW Wis.			Numt
Specific   Water Table Observation   Well   Bit	scility License, Permit or Monitori	ng Number Und		l ong.	بد خا		<u> </u>	<u> </u>
12   12   12   13   14   15   15   15   15   15   15   15						10	/30 /91	
Material between well casing and protective pipes   Secure Part   Standard Secure	Diagomaler	12 Section		10		<u>m</u> n	n वत प्र	y Eirm
Well A Point of Enforcement Std. Application   Yes   No   Devarables   No   Devara	istance Well Is From Waste/Source	: Boundary	/4 of SE1/4 of Sec	. <u>10</u> T. <u>17</u> N, R20				1.11111
Yes   No   No   No   No   No   No   No   N		114 [[	uon ol Well Kelauve	IN WHSHUNDHIEC	1 '			
Protective pipe, top elevation	Well A Point of Enforcement Std	Application? u			T	win City T		
Protective pype: top elevation				1. Cap a	nd lock?		Ø Yes	
3. Well casing, top elevation	A. Protective pipe, top elevation	- 500-86				oe:		ρ
Clark surface elevation	Well casing, top elevation						-	
2. USCS classification of soil near series:   Cast Alliminium		9.44-0 ft. MS		1 1	_		_	
12. USCS classification of soil near screen:   CP   CM   CC   CM   SW   SP     SM   SC   ML   MH   CL   CH     Behtonite     Behtonite     Austral analysis stached?   Yes   No     13. Sieve sanklysis stached?   Yes   No     14. Drilling method used:   Rotary   50     15. Drilling fluid used:   Water   02   Air   01     Drilling fluid used:   Water   02   Air   01     Drilling stand   Ober   12     15. Drilling fluid used:   Water   02   Air   01     Drilling stand   Ober   12     16. Drilling addidives used?   Yes   No     Describe   17. Source of water (attach analysis):   Tremie parties     17. Source of water (attach analysis):   Tremie parties     18. Bentonite seal;   Describe   Sand   Weight Bentonite-centent grout     19. Leb/gal mud weight Bentonite-sent sturry     10. Describe   Tremie parties   Tremie parties     17. Source of water (attach analysis):   Tremie parties     18. Bentonite seal;   Describe   Tremie parties     19. Bentonite seal;   Bentonite sturry     10. Bentonite seal;   Bentonite     11. Bentonite seal;   Bentonite     12. Leb/gal mud weight Bentonite     13. Surface seal;   Bentonite     14. Material between well casing and protective pipe:     15. Armular space seal:   Cranular space     16. Material between well casing and protective pipe:     18. Hourstand weight Bentonite     19. Leb/gal mud weight Bentonite     19. Leb/gal mud weight Bentonite     10. Leb/gal mud weight Bentonite     10. Serent waterial: Manufacturer, product name and me     17. Source of water (attach analysis):     18. Bentonite seal:   Bentonite     19. Bentonite seal:   Bentonite seal:   Bentonite     19. Bentonite seal:   Bentonite     19. Bentonite seal:   Bentonit	Land surface clevianes		n. Seese :			minum		
12. USCS classification of soft and s	O. Surface seal, bottom	_ 1L MOD 01		A AC	ditional protec	ction?	Σ( Yα	
SM SC ML MH CL CH CH AND Stere Analysis stuched? Yes No Other Character Manufacturer, product name and metally seal, top filter pack, bottom filt. MSL or 18 ft.  Well bottom filt. MSL or 18 ft.  Well casing 2 2 5 in.  M. O.D. well casing 2 2 5 in.  M. O.D. well casing 2 2 5 in.  M. O.D. well casing 2 2 5 in.  N. I.D. well casing 2 2 0 in.		wn swn spe		п	yes, describe:E	Expansion (	Cap	
Server   S		H CL CH		3 Surfa	ce seal:			
13. Never wantysh attack   13. Rotary   15. Order   14. Drilling method used:   Rotary   15. Order   14. Drilling method used:   Rotary   15. Drilling fluid used:   Water   10.2	Bedrock 🗆							
Hollow Stem Auger   1/2   1/4	13. Sieve analysis attached?			M 14 17 18	rial habyeen w	ell casing and protec		
Sand Other	14. Drilling method used:			4. Maic	TIMI DELWOCAL W	on cashing and pro-	Bentonite	
Sand Other   Drilling fluid used:   Water   02   Air   01   Drilling Mud   03   None   99	Hollow	Other D 44				Anr	ıular space seal	
Drilling Mud   03   None   99	·			KW -				
Drilling Mud   03   None   199	15. Drilling fluid used: Water [	102 Air 🔲 01		5. Anni	ular space seal			
16. Drilling additives used?   Yes   18 No     Describe   17. Source of water (attach analysis):	Drilling Mud	103 None 13 99		Ы	Lbs/gal mi	ud weight Bento	nite-sand sturry Lentonite shurry	
Describe	16 Deilling additives used?	1 Yes ElNo		C	Lbs/gai mi	ua weighi	te-centent grout	ι□
Tremie pumped  Gravity  Gravity  E. Bentonite seal, top	<del></del>	-		<u></u> o	.5 Ft 3	volume added for ar	•	
E. Bentonite seal, top	Describe		- l 🐰	£ H	low installed:			
E. Bentonite seal, top	17. Source of water (attach analysis	is):	I 🛭			'	•	
E. Bentonite seal, top ft. MSL or 1 ft. b. 1/4 in. 13/8 in. 1/2 in. Bentonite pellets 1  F. Fine sand, top ft. MSL or 5 ft. 7. Fine sand material: Manufacturer, product name & mest a Badger Mine Silica b. Volume added 0.5 ft. 8. Filter pack, top ft. MSL or 8 ft. 8. Filter pack material: Manufacturer, product name and me a Red Flint b. Volume added 4.0 ft. 9. Well casing: Flush threaded PVC schedule 40 ft. Flush threaded PVC schedule 40 ft. Flush threaded PVC schedule 80 ft. 10. Screen material: Schedule 40 PVC footninuous slot 10. Screen material: Manufacturer footninuous foo			💥			n Da	•	, .
F. Fine sand, top  fi. MSL or 5 ft.  7. Fine sand material: Manufacturer, product name & mest a Badger Mine Silica b. Volume added 0.5 ft.  8. Filter pack, top  ft. MSL or 8 ft.  1. Well bottom  ft. MSL or 18 ft.  7. Fine sand material: Manufacturer, product name and mest a Badger Mine Silica b. Volume added 0.5 ft.  8. Filter pack material: Manufacturer, product name and mest a Red Flint b. Volume added 4.0 ft.  9. Well casing: Flush threaded PVC schedule 40 ft.  Flush threaded PVC schedule 80 ft.  Other Continuous slot ft.  Borehole, bottom  L. Borehole, diameter  B. in.  M. O.D. well casing 2 25 in.  N. I.D. well casing 2 25 in.  11. Backfill material (below filter pack): None ft.  Other Control of the Control of		1						
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Signature Firm	Signature		1					

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Sta and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin Department of Natural Resources

MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 4-90

Facility/Project Name		County Name	Calumet RMT.	Well Name	<i>1</i> 111	)
Facility License, Permit or Monitoring Numb	#P	County Code	Wis. Unique Wall N	-φ.,	1716	
Facility License, Ferritt of Monadating Flants	· <u> </u>	<u>74</u>	Wis. Citague wan iv	muroca.	DIVK W	all Number
1. Can this well be purged dry?	¤ Y∝	□ No	11. D	Before Deve	elopment	After Development
2. Well development method			11. Depth to Water (from top of	· 102.	() / 6	_ <i>Dk</i> .y'n.
surged with bailer and bailed	図 41	1	well casing)		<u>~</u> . n.	- ZA II.
surged with bailer and pumped	<u> </u>					
surged with block and bailed	□ 42		Date	b. /// /	1,91	$\int_{\mathbf{m}} \int_{\mathbf{m}} \int_{\mathbf{d}} \int_{\mathbf{d}} \int_{\mathbf{v}} \int$
surged with block and pumped	□ 62			mm d	y y	mm dd yy
surged with block, bailed and pumped	<u> </u>		m	2/0 : nn	<b>⊠</b> ≇.m.	11:00 a.m.
compressed air bailed only	□ 20 □ 10		Time	c. 70:00	p.m.	
pumped only	<u> </u>		12. Sediment in well		inches	
pumped slowly	50		bottom		nrcnes	inches
Other	. 🗖 🗂		13. Water clarity	Clear 🔲 1	n	Clear 120
			1	Turbid 🔯 1		Turbid 2 2 5
3. Time spent developing wall	50	min.		(Describe)		(Describe)
4 10 at a fact at the second a				Very 3	11+14	
4. Depth of well (from top of well casising)		!L .				
5. Inside diameter of well	_2	_ in.				
5. Volume of water in filter pack and well						
casing	6.	/ n=1				
-		-	Fill in if drilling fluid	were used and	well is at	colid masta facilian
V. Volume of water removed from well	_15.	gal.				solid waste facility.
. Volume of water added (if any)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	gal.	14. Total suspended solids		mg/l	mg/l
. Source of water added			15. COD		mg/1	mg/l
-				***************************************		mg/
O. Analysis performed on water added? (If yes, attach results)	☐ Yœ	□ No	ŀ		1	
6. Additional comments on development:				······································		
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purged dry within	10 ga	llons,	Affer 30 ,	nin. re	cover	ed 4 gullons
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	Tecumseh Products Company  Boring Drilled By (Firm name and name of crew chief)  Date											Date 1	Drilling (	Comple	ted	Delli	ng Meth	od .
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			<u>L</u>			D: silty, grey, grav					j	2.5						
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	5 pebbles, some organics					ics y, brown, course, foundry					1011				1 1.		petroleum odor	
			E			ne green staining			,									
6-3	14	10		7- <del>9</del> '	brown mottling to	clayey, light brown		-	SM			1.0						odor
6-4	19	7	10	10-12'	SILT: sandy, tan	, pebbles and gra	vel, we	ət	SM			0.3						no odor
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			上												ŀ			
6-5	14	5	E	13-15'	SAND: silty, grav	el and pebbles, w	ater be	earing	SM			0.4						no odor
6-6	04	_	<u></u> 15	40 401														
0-0	24	5	E	10-18	SiLi; sandy, pe	bbles and gravel	(trace),	, wet	SM			0.0						no odor
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This form is authorized by Chapters 144,147 and 162, Wis Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$5,000 for each violation. Fined not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of command violation is a separate offense, pursuant to as 144,99 and 162,06, Wis. Stats

From:

Nass, Alan T - DNR

Sent:

Thursday, March 03, 2011 2:57 PM

To:

'Rice, John'; 'Alyssa.Sellwood@rmtinc.com' 'Smith, Jason'; 'Tom.Stolzenburg@rmtinc.com'

Cc: Subject:

Approval - Tecumseh Work Plan

Importance:

High

Hello John and Alyssa:

I have reviewed and hereby approve the January 31, 2011 work plan RMT submitted for BRRTS cases 02-08-100332, 03-08-001071, and 02-08-193776 at the former Tecumseh Products Company in New Holstein, Wisconsin. Please proceed with the work. Please contact me with any questions you may have.

Jason - thanks to Tecumseh Products for doing this work.

From:

Smith, Jason [Jason.Smith@tecumseh.com]

Sent:

Thursday, May 20, 2010 8:12 AM

To:

Nass, Alan T - DNR

Cc:

Stolzenburg, Tom

Subject:

RE: Former Tecumseh - New Holstein. WI

Attachments: Tom Stolzenburg.vcf

Alan,

I was in Nashville the last two days at a waste water training class. As soon as I opened your first e-mail, I realized that RMT would be our assistance group. I have contacted Tom Stolzenburg for assistance regarding these matters. I am certain that they will be able to assist us.

Regards,

#### Jason Smith

## Tom Stolzenburg

RMT, Inc. Project Manager

+1 (608) 662-5287 Work tom.stolzenburg@rmtinc.com

744 Heartland Trail Madison, WI 53717

S. Jason Smith

Corporate Environmental Director

Tecumseh Products Company

2700 West Wood Street

Paris, TN 38242

e-mail - jason.smith@tecumseh.com

phone - 731-644-8127

cell - 731-707-2889

fax - 731-644-8156



"Before printing, think about the environment"

Outgoing messages, along with any attachments, are scanned for viruses prior to sending.

NOTICE-- This email may contain confidential and privileged information for the sole use of the intended recipient. Any review or distribution by others is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and delete all copies.

From: Nass, Alan T - DNR [mailto:Alan.Nass@wisconsin.gov]

**Sent:** Wednesday, May 19, 2010 4:56 PM

To: Smith, Jason

Subject: FW: Former Tecumseh - New Holstein. WI

Importance: High

Jason - The company that produced the May 3, 2007 report was RMT not TRC. Sorry for the confusion.

- DNR 4ay 19, 2010 4:25 PM

opher (Chicago, IL-US)'; 'SMcAnulty@TRCSOLUTIONS.com'; 'JRice@TRCSOLUTIONS.com'; Jason Smith

Tecumseh - New Holstein, WI

Hello to all - I am looking for help and hope you can assist me. I am looking for contacts and updates on the status of the investigation of three environmental contamination cases at the former Tecumseh Plant in New Holstein, Wisconsin. It is my understanding that this property was sold to Heus Manufacturing in 2007. You may not be aware of it, but Heus closed its doors due to bankruptcy several months ago. The most recent information that I have is that the current owner (not the one who owned Heus at the time it purchased the Tecumseh property) can not be located. For that reason, I am looking to you for assistance to update me on these sites.

There are five open environmental contamination investigations at the site. Two of the cases (02-08-363333 chromium and 02-08-281506 PCBs) are being handled by TRC. I don't have any questions regarding those two cases.

Two of the three remaining cases (02-08-100332 chlorinated/petroleum, 03-08-001071 petroleum/chlorinated) were the responsibility of Tecumseh with the responsibility likely transferring to Heus at the time of property sale (is this correct?). The third remaining open case (02-08-193776 petroleum) again was the responsibility of Tecumseh with that responsibility likely transferring to Heus at the time of property sale (again - correct?). This later case had been given conditional closure in August 2004 but remains open due to the need to abandon a monitoring well.

In regards to two of the three remaining open cases (02-08-100332 and 03-08-001071), TRC produced a work plan dated May 3, 2007 which proposed the placement of 4 additional monitoring wells NE of the Tecumseh Plant and also proposed additional groundwater sampling. Were these wells installed and/or has there any additional sampling or any other work done at the site in regards to these two cases?

Regarding the conditionally closed case (02-08-193776), do you know if the monitoring well has been abandoned?

From:

Nass, Alan T - DNR

Sent:

Wednesday, May 19, 2010 4:56 PM

To:

Jason Smith

Subject:

FW: Former Tecumseh - New Holstein. WI

Importance:

High

Jason - The company that produced the May 3, 2007 report was RMT not TRC. Sorry for the confusion.

From:

Nass, Alan T - DNR

Sent:

Wednesday, May 19, 2010 4:25 PM

To:

'Harvey, Christopher (Chicago, IL-US)'; 'SMcAnulty@TRCSOLUTIONS.com'; 'JRice@TRCSOLUTIONS.com'; Jason Smith

Subject:

Former Tecumseh - New Holstein. WI

Importance:

Hiah

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From: Nass, Alan T - DNR

**Sent:** Wednesday, May 19, 2010 4:48 PM

To: 'Harvey, Christopher (Chicago, IL-US)'

Subject: RE: Former Tecumseh - New Holstein. WI

Chris - Yes, I realized that as soon as I hit send. It was RMT not TRC. Thanks!

From: Harvey, Christopher (Chicago, IL-US) [mailto: CHarvey@TRCSOLUTIONS.com]

Sent: Wednesday, May 19, 2010 4:36 PM

To: Nass, Alan T - DNR; SMcAnulty@TRCSOLUTIONS.com; JRice@TRCSOLUTIONS.com; Jason Smith

Subject: RE: Former Tecumseh - New Holstein. WI

Alan,

TRC did not produce a work plan, dated May 3, 2007, for the two of the three remaining open cases.

If there is anything else I can help you with, please let me know.

Chris

From: Nass, Alan T - DNR [mailto:Alan.Nass@wisconsin.gov]

**Sent:** Wednesday, May 19, 2010 4:25 PM

To: Harvey, Christopher (Chicago, IL-US); SMcAnulty@TRCSOLUTIONS.com; JRice@TRCSOLUTIONS.com; Jason

Smith

Subject: Former Tecumseh - New Holstein. WI

Importance: High

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Regarding the conditionally closed case (02-08-193776), do you know if the monitoring well has been

## abandoned?

From:

Nass, Alan T - DNR

Sent:

Wednesday, May 19, 2010 4:34 PM

To:

'John.Rice@rmtinc.com'

Subject:

FW: Former Tecumseh - New Holstein. WI

Importance:

High

John - Sorry, I placed you at TRC not RMT. I understand Stacy is no longer with RMT. Hope you can help me.

From:

Nass, Alan T - DNR

Sent:

Wednesday, May 19, 2010 4:25 PM

To:

'Harvey, Christopher (Chicago, IL-US)'; 'SMcAnulty@TRCSOLUTIONS.com'; 'JRice@TRCSOLUTIONS.com'; Jason Smith

Subject:

Former Tecumseh - New Holstein. WI

Importance: High

Hello to all - I am looking for help and hope you can assist me. I am looking for contacts and updates on the status of the investigation of three environmental contamination cases at the former Tecumseh Plant in New Holstein, Wisconsin. It is my understanding that this property was sold to Heus Manufacturing in 2007. You may not be aware of it, but Heus closed its doors due to bankruptcy several months ago. The most recent information that I have is that the current owner (not the one who owned Heus at the time it purchased the Tecumseh property) can not be located. For that reason, I am looking to you for assistance to update me on these sites.

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Two of the three remaining cases (02-08-100332 chlorinated/petroleum, 03-08-001071 petroleum/chlorinated) were the responsibility of Tecumseh with the responsibility likely transferring to Heus at the time of property sale (is this correct?). The third remaining open case (02-08-193776 petroleum) again was the responsibility of Tecumseh with that responsibility likely transferring to Heus at the time of property sale (again - correct?). This later case had been given conditional closure in August 2004 but remains open due to the need to abandon a monitoring well.

In regards to two of the three remaining open cases (02-08-100332 and 03-08-001071), TRC produced a work plan dated May 3, 2007 which proposed the placement of 4 additional monitoring wells NE of the Tecumseh Plant and also proposed additional groundwater sampling. Were these wells installed and/or has there any additional sampling or any other work done at the site in regards to these two cases?

Regarding the conditionally closed case (02-08-193776), do you know if the monitoring well has been abandoned?

From:

Nass, Alan T - DNR

Sent:

Wednesday, May 19, 2010 4:25 PM

To:

'Harvey, Christopher (Chicago, IL-US)'; 'SMcAnulty@TRCSOLUTIONS.com';

'JRice@TRCSOLUTIONS.com'; Jason Smith

Subject:

Former Tecumseh - New Holstein. WI

Importance:

High

Hello to all - I am looking for help and hope you can assist me. I am looking for contacts and updates on the status of the investigation of three environmental contamination cases at the former Tecumseh Plant in New Holstein, Wisconsin. It is my understanding that this property was sold to Heus Manufacturing in 2007. You may not be aware of it, but Heus closed its doors due to bankruptcy several months ago. The most recent information that I have is that the current owner (not the one who owned Heus at the time it purchased the Tecumseh property) can not be located. For that reason, I am looking to you for assistance to update me on these sites.

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Regarding the conditionally closed case (02-08-193776), do you know if the monitoring well has been abandoned?

From:

Nass, Alan T - DNR

Sent:

Monday, April 06, 2009 3:12 PM

To:

Jason Smith

Subject:

Tecumseh - New Holstein

Importance: High

Jason - Hello, I am the WDNR Project Manager for all of the Tecumseh contamination cases in New Holstein. What would be very helpful is if you can confirm or provide correct information of who is responsible (company name, contact person name, address, telephone number, e-mail, etc.) for each open cases in New Holstein / or if you could put me in touch with who would know.

## According to my records, there are 5 open cases:

02-08-363333 (chromium line) TRC is responsible 02-08-281506 (Hayton PCB Remediation) TRC is responsible

02-08-193776 (conditionally closed - needs proof of monitoring well abandonment) Tecumseh is responsible

02-08-100332 (chlorinated mixed w/petroleum - case below) Tecumseh is responsible

03-08-001071 (petroleum mixed w/ chlorinated - case above) Tecumseh is responsible

Can you provide me with or direct me to someone in Tecumseh who can provide me with updates on the status of the cases that Tecumseh is responsible for?

Also, I need to have a copy of all written agreements (e.g. between Tecumseh & TRC or Tecumseh & Hues Manufacturing) regarding who is responsible for the different environmental investigation/remediation cases at the Tecumseh New Holstein site. Can you provide this to me or can you direct me to someone who can?

Thanks Jason!

**From:** Tom Stolzenburg [mailto:Tom.Stolzenburg@rmtinc.com]

Sent: Monday, April 06, 2009 2:15 PM

To: Jason Smith

Cc: Nass, Alan T - DNR

Subject: Tecumseh, New Holstein legal liabilities

Alan Nass can make changes to the state records as to who is responsible for which project/property in New Holstein if you send him some documentation. Alan's address is:

Attn. Alan Nass Wisconsin Department of Natural Resources 2984 Shawano Avenue Green Bay, WI 54313-6727

His phone number is 920-662-5161 His e-mail address should appear above.

Alan would like to know who at Tecumseh should be his contact.

Outgoing messages, along with any attachments, are scanned for viruses prior to sending.

NOTICE-- This email may contain confidential and privileged information for the sole use of the intended recipient. Any review or distribution by others is strictly prohibited. If you are not the intended recipient,

## CASE ACTIVITY REPORT Form 4100-160 3-90

State of Wisconsin
Department of Natural Resources
Law Enforcement

Case Number 02-08-363-33 Scase Title	
02-08-100332 / 03-08-001071 / Tecumseh Products Company – New Holst	ein
02-08-193776, 06-08-548742	
Activity	Date of Activity
Meeting with Tecumseh & Heus Manufacturing	4/24/07 (10 AM – 11:30 AM)

#### Narrative

On this date, a meeting was held at the Oshkosh WDNR Office. Present were: S. Jason Smith (Tecumseh Corporate Environmental Director), John Rice & Stacy McAnulty (RMT, Inc. – consultants for Tecumseh), Edward Daeger (VP – Heus Manufacturing), Mark Enneper (Chief Executive Officer – Heus Manufacturing), D'Arcy Gravelle (Key Environmental Group, Inc. – consultant for Heus), and Alan Nass (WDNR). The meeting was held at the request of Stacy McAnulty for the purpose of reviewing status of open contamination cases being handled by Key for Tecumseh and discuss what additional work would be needed at the site.

RMT made a brief presentation on the status of the cases, a summary of work done to date, and their proposal for additional work on 02-08-100332 (chlorinated case). Regarding the proposed work for 02-08-100332, I stated that the DNR would want to see more then one new well nest down-gradient of M-33/M-33D – possibly 3 to 4 new nests with piezometers (two depths), sample 1/4ly, include NA parameters, and include remaining old wells at NW & SW corner of plant. An effort should be made to locate old, lost monitoring wells at the NW and SW corners. Work on 02-08-001071 could be included with 02-08-100332. I said that 02-08-193776 would be closed soon now that I had received the well abandonment form from RMT. RMT will send me a proposal for the additional work. I will review & discuss it with Key Environmental. & respond to RMT.

Hydrogeologist	Date of Report	Exhibit Reference
Alan Thomas Nass	4/24/07	



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald W. Kazmierczak, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TTY 711

August 4, 2004

Mr. Bharat Shah Tecumseh Products 1604 Michigan Avenue New Holstein, Wisconsin 53061

Subject:

Conditional Case Closure By Project Manager, Tecumseh East Section Fill Area,

1604 Michigan Avenue, New Holstein, Wisconsin BRRTS #: 02-08-193776

Dear Mr. Shah:

On August 4, 2004, the above case was reviewed for closure by the Department of Natural Resources. The Department reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases. Upon review of the case, it was determined that it could be closed pending the abandonment of the monitoring well.

The original case closure was received March 15, 2000. The Department responded with a letter dated May 31, 2000 stating that additional investigation was needed. This additional investigation information was then received on May 22, 2003. At that time, I filed the information and forgot about the closure request. I apologize for the delay of my review of your request, this was total my error.

This case will be closed upon receipt of documentation of proper abandonment of monitoring well MW-1. According to Department records, this well still exists. If this well has already been abandon or you would like to keep it for monitoring purposes, please inform me. Otherwise, please have it properly abandon and submit the documentation of such. Upon receipt of the documentation or your request to keep the well for monitoring purposes, this case will be officially closed.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me in Green Bay at 920-492-5861.

Yours truly.

Alan Thomas Nass, P.G., P.S.

Une Decruai Men

Hydrogeologist

cc: Dan Pelczar, KEY Engineering Group, Inc., 735 North Water Street, Milwaukee,

Wisconsin 53202



# WISCONSIN DEPT. OF NATURAL RESOURCES

## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald Kazmierczak, Regional Director

**Northeast Region Headquarters** 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

## WASTE MANAGEMENT AND BUREAU FOR REMEDIATION AND REDEVELOPMENT

## **FAX TRANSMITTAL SHEET**

Date:

August 4, 2004

TO

Name:

Mr. Bharat Shah

Company/Agency:

**Tecumseh Products** 

Fax Number:

920-898-2701

**FROM** 

Name:

Alan Nass ()

Company/Agency:

**WDNR** 

Phone Number: 920-492-5861

Pages to follow (excluding cover sheet):

Conditional Closure - Tecumseh Products East Fill Comments/Message: Area, BRRTS # 02-08-193776. Case was conditionally closed pending the proper abandonment / documentation of Monitoring Well MW-1. I apologize for the delay in reviewing this request. Please contact me if you have any questions.



## MESSAGE CONFIRMATION

08/04/2004 11:48 ID=WI DNR NER SOLID WASTE

DATE

S,R-TIME

DISTANT STATION ID

MODE

PAGES

RESULT

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9208982701

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02

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08/04/2004

11:47

WI DNR NER SOLID WASTE → 819208982701

NO.167

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## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald Kezmierczak, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

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Date:

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TO

Name:

Mr. Bharat Shah

Company/Agency:

Tecumseh Products

Fax Number:

920-898-2701

FROM

# WISCONSIN DEPT. OF NATURAL RESOURCES

## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald Kazmierczak, Regional Director

Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

## WASTE MANAGEMENT AND BUREAU FOR REMEDIATION AND REDEVELOPMENT

## **FAX TRANSMITTAL SHEET**

Date:

August 4, 2004

TO

Name:

Dan Pelczar

Company/Agency: Key Engineering Group, Ltd.

Fax Number:

414-224-8383

**FROM** 

Name:

Alan Nass

Company/Agency:

**WDNR** 

Phone Number:

920-492-5861

Pages to follow (excluding cover sheet):

Conditional Closure - Tecumseh Products East Fill Comments/Message: Area, BRRTS # 02-08-193776. Case was conditionally closed pending the proper abandonment / documentation of Monitoring Well MW-1. I apologize for the delay in reviewing this request. If Tecumseh wants to keep the well for monitoring purposes, please let me know (are we expecting any other wells that might be abandoned/installed in the near future – i.e. to save on costs?). I hate to shag the crew out to abandon just one well when there are so many on the property. Please contact me if you have any questions.



## MESSAGE CONFIRMATION

08/04/2004 11:50 ID=WI DNR NER SOLID WASTE

DATE

S,R-TIME

DISTANT STATION ID

MODE

PAGES

RESULT

08/04

00'31"

1 262 375 9680

CALLING

02

OK

0000

08/04/2004

11:49

WI DNR NER SOLID WASTE → 814142248383

NO.168

P01



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald Kazmierczak, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

# WASTE MANAGEMENT AND BUREAU FOR REMEDIATION AND REDEVELOPMENT

## FAX TRANSMITTAL SHEET

Date:

August 4, 2004

TO

Name:

Dan Pelczar

Company/Agency:

Key Engineering Group, Ltd.

Fax Number:

414-224-8383

FROM



W66 N215 Commerce Court Cedarburg, Wisconsin 53012 (262) 375-4750 (800) 645-7365 Fax (262) 375-9680



May 20, 2003

Mr. Alan Nass Wisconsin Department of Natural Resources Northeast Region 1125 North Military Avenue Post Office Box 10448 Green Bay, Wisconsin 53407-0448

Reference:

Response to WDNR's May 31, 2000 Correspondence

Tecumseh-East Section Fill Area

1604 Michigan Avenue New Holstein, Wisconsin

WDNR BRRTS #: 02-08-193776

KEY ENGINEERING GROUP, LTD. File No. 0809004

#### Dear Mr. Nass:

Pursuant to the Wisconsin Department of Natural Resources (WDNR) May 31, 2000 correspondence (attached), the purpose of this letter is to provide the additional requested soil analytical data for the above referenced site. Key Engineering Group, Ltd. (KEY) previously submitted a Case Closure Request/Limited Site Investigation Report (KEY, March 14, 2000) with the \$750.00 closure review fee and the WDNR Case Summary and Closeout Forms. Moreover, it is understood that once the WDNR receives this information the case closure review process will continue. This letter was prepared by KEY on behalf of Tecumseh Products Company.

## **Investigation Procedures**

Three soil probes (GP-4A, GP-5A and GP-6A) were advanced with a truck-mounted Geoprobe<sup>®</sup> unit operated by Soil Essentials on April 8, 2003, in the immediate vicinity of the previous soil probe locations. The soil probe locations are depicted on Figure 1.

The soil probes were advanced to 10 or 12 feet below ground surface. Soil samples were collected at 2-foot intervals and were classified in the field in accordance with the Unified Soil Classification System. Each soil sample was also field screened for the presence of volatile organic compounds with a photoionization detector (PID). Two soil samples from each soil probe were collected from GP-4A, GP-5A and GP-6A and submitted to Test America for analysis of polynuclear aromatic hydrocarbons (PAHs) and three soil samples were collected and submitted for analysis of polychlorinated biphenyls (PCBs). The soil samples were collected from the fill (one PAHs and two PCBs) and native soil (one PAHs and one PCBs) as outlined in the WDNR, May 31, 2000, correspondence. Soil probe and sampling information, soil sample classification data and field screening results are documented on soil boring logs which are included in Attachment 1. Borehole abandonment forms are also included in Attachment 1.

Mr. Alan Nass May 20, 2003 Page 2

#### Results

The soil sample analytical results are summarized in Table 1. The soil sample analytical reports and chain of custody documentation are included in Appendix 2.

The results of field screening indicated that PID readings ranged from <1.0 instrument unit (i.u.) to 18 i.u. Soil sample field screening results generally indicated PID readings above background for soil samples collected from the fill material at GP-4A, GP-5A and GP-6A. Lower PID readings were measured in underlying native soils. The boring logs included in Appendix 1 include PID readings for each interval sampled.

The site investigation (SI) laboratory PAH soil sample analytical results indicated that no soil sample concentrations were greater than WDNR Interim Guidance Generic Residual Contaminant Levels for the protection of groundwater or for the direct-contact exposure pathway.

The SI laboratory PCB soil sample analytical results indicate that no soil samples contained more than 50 micrograms per kilogram.

#### Conclusions

Based the PAH and PCB soil analysis and the previously submitted Case Closure Request/Limited Site Investigation Report (KEY, March 14, 2000) with the \$750.00 closure review fee and the WDNR Case Summary and Closeout Forms it is understood that the case closure review process will continue upon receipt of this letter.

Please call if you have any questions.

Sincerely,

KEY ENGINEERING GROUP, LTP

Daniel K. Pelczar, CPG, P.G.

Senior Hydrogeologist

Andrew B. Graham, P.E., P.G., CHMM

Senior Engineer

DKP/vjc

cc: Mr. Bharat Shah, Tecumseh Products Company

Attachments: Case Closure Review (WDNR, May 31, 2000)

Table 1 - Summary of Soil Analytical Data

Figure 1 - Site Layout

Attachment 1 - Soil Probing Logs/Abandonment Forms Attachment 2 - Soil Analytical Report/Chain of Custody Form



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary Ronald W. Kazmierczak, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

May 31, 2000

Mr. Kerry DeKeyser Tecumseh Products 1604 Michigan Avenue New Holstein, Wisconsin 53061

Subject:

Case Closure Review, Tecumseh Products, Contaminated Fill Area at MW-1, 1604 Michigan Avenue, New Holstein, Wisconsin BRRTS #: 02-08-193776

Dear Mr. DeKeyser:

I have completed my review of the above case that was submitted for closure and have noted some information to be missing. Upon receipt of this information, the case closure review process will continue.

In the Department's letter dated 10/12/98 that was addressed to yourself (copy attached), the Department required analysis for PAHs and PCBs in addition to the analysis for VOCs and RCRA metals. The PCB and PAH analyses do not appear to have been done. For the Department to consider this case for closure, PCB and PAH analyses of the soil will be needed in the area around monitoring well MW-1.

The Department will require a minimum of three soil borings in the fill around MVV-1 (by GP-4, GP-5 and GP-6) with analysis for PCBs and PAHs. Samples for analysis should be collected from within the fill material and the native material immediately below the fill material. In addition, due to the thickness of the fill material, two soil samples from within the fill per boring should be analyzed for PCBs (i.e. a total of three PCB analyses per boring).

Once this data has been submitted to the Department, the closure review of this case will continue. Thank you for your cooperation in this matter. If you have any questions, please contact me in Green Bay at 920-492-5861.

Yours truly,

Alan Thomas Nass, P.G.

Hydrogeologist

Enclosure

Cc: Curtis Hoffart, KEY Engineering Group, W66 N215 Commerce Court, Cedarburg,

Wisconsin 53012 Dale Ziege – RR/3

Alku Georgian Mari



#### TABLE 1

#### SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

#### **TECUMSEH - EAST SECTION FILL AREA**

1604 Michigan Avenue New Holstein, Wisconsin

				SAMPL	E IDENTIFI	CATION				GENEF	RIC RCLs
										PROTECTION OF	DIRECT CONTACT
		GP-4A			GP-5A			GP-6A		GROUNDWATER	(INDUSTRIAL)
Date Sampled	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03	4/8/03		
Depth (feet)	0-2	4-6	8-10	0-2	4-6	8-10	0-2	4-6	8-10		
PID (i.u.)	<1	<1	<1	<1	18	<1	<1	<1	<1		
PAHs (μg/kg)											
Acenaphthene		<600	<61		<550	<60		<59	<64	38,000 (1)	60,000,000 (1)
Acenaphthylene		<1,000	<100		<930	<100		<100	<110	700 (1)	360,000 (1)
Anthracene		<60	<6.1		<55	<6.0		<5.9	<6.4	3,000,000 (1)	300,000,000 (1)
Benzo(a)anthracene		<60	<6.1		<55	<6.0		86	14	17,000 (1)	3,900 (1)
Benzo(a)pyrene		<60	<6.1		<55	<6.0		60	<6.4	48,000 (1)	390 (1)
Benzo(b)fluoranthene		<60	<6.1		<55	<6.0		12	<6.4	360,000 (1)	3,900 (1)
Benzo(g,h,i)perylene		<60	<6.1		<55	<6.0		89	<6.4	6,800,000 (1)	390,000 (1)
Benzo(k)fluoranthene		<60	<6.1		<55	<6.0		26	<6.4	870,000 (1)	39,000 (1)
Chrysene		<60	<6.1		69	<6.0		34	14	37,000 (1)	390,000 (1)
Dibenzo(a,h)anthracene		<91	<9.1		<82	<9.1		<8.9	<9.6	38,000 (1)	390 (1)
Fluoranthene		<120	<12		<110	<12		142	31	500,000 (1)	40,000,000 (1)
Fluorene		<120	<12		<110	<12		<12	<13	100,000 (1)	40,000,000 (1)
Indeno(1,2,3-cd)pyrene		<60	<6.1		<55	<6.0		30	<6.4	680,000 (1)	3,900 (1)
1-methyl naphthalene		<360	<36		<330	<36		<35	<38	23,000 (1)	70,000,000 (1)
2-methyl naphthalene		<300	<30		<270	<30		<30	<32	20,000 (1)	40,000,000 (1)
Naphthalene		<360	<36		<330	<36		<35	<38	400 (1)	110,000 (1)
Phenanthrene		<60	<6.1		175	<6.0		57	19	1,800 (1)	390,000 (1)
Pyrene		<60	<6.1		131	<6.0		236	36	8,700,000 (1)	30,000,000 (1)
PCBs (mg/kg)											
Aroclor 1016	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32		
Aroclor 1221	<0.29	<0.30	< 0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32		****
Aroclor 1232	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32		
Aroclor 1242	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32		45.000
Aroclor 1248	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32		
Aroclor 1254	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	1.5	<0.60	<0.32		
Aroclor 1260	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	<1.4	<0.60	<0.32	***	ware
Total PCBs	<0.29	<0.30	<0.30	<0.29	<0.28	<0.30	1.5	<0.60	<0.32		

#### Notes:

Bold values exceed the WDNR Interim Guidance (1) protection of groundwater values Boxed values exceed the WDNR Interim Guidance (1) direct-contact values

--- - not analyzed, not applicable or no standard established

(1) - From Soil Cleanup Levels for PAHs Interim Guidance, WDNR, PUBL-RR-519-97, April 1997, Corrected.

bgs - below ground surface mg/kg - millgrams per kilogram

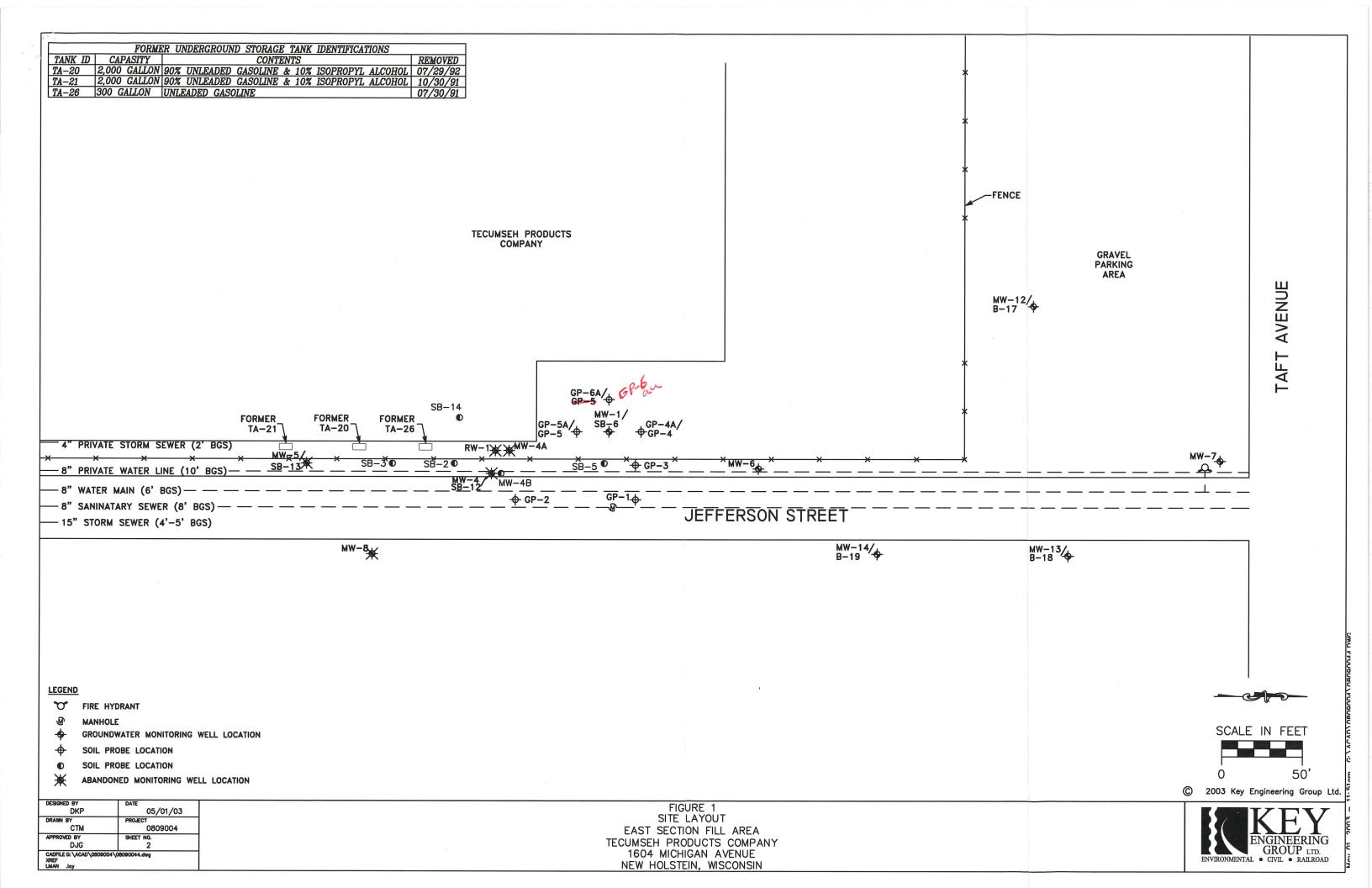
NA - not applicable

PAHs - polynuclear aromatic hydrocarbons

PCB - polychlorinated biphenyls

Q - result between the limit of detection and limit of quantitation

RCLs - residual contaminant levels µg/kg - micrograms per kilogram



## Nass, Alan T.

From: Dan Pelczar [dpelczar@keyengineering.com]

Sent: Wednesday, June 16, 2004 11:35 AM

To: Nass, Alan T.

Subject: Tecumseh Products Company

Al:

I received your June 14, 2004 letter. Here is a summary of where these cases are at:

BRRTS #: 02-08-363333 (Chrome case)

KEY is not handling this case. Please contact the following environmental consultant:

NewFields W 7 Mark McColloch 2 2110 Luann Lane, Suite 101 Madison, WI 53713 (608) 442-5223

KEY has sampled these wells as part of the case below.

BRRTS #:02-08-100332 (Chlorinated West) BRRTS #:03-08-001071 (Petroleum West)

KEY has completed the installation of four well nest and has developed these wells in accordance with your October 31, 2003 correspondence. KEY also has sampled all wells/piezometers on site (54 total) in March 2004 and I am in the process of putting together a *Quarterly Status Update* which I should have completed next month. KEY plans on performing a second groundwater sampling event in July 2004 after some past due invoiced get paid. Also Bhart Shah has left Tecumseh earlier this year and Tecumseh is currently looking for a replacement. My temporary contact is Scott Sibert (920/898-2700) who is their Human Resources Director.

Fax: 608-492-9013

BRRTS #: 02-08-193776 (Fill case)

KEY submitted a *Response to WDNR's May 31, 2000 Correspondence* (KEY, May 20, 2003) and is awaiting for WDNR review.

**BRRTS #:02-001070 (Petroleum East)** 

KEY is awaiting a final case closure letter and proof of the recorded deed was submitted to the WDNR in a *Letter of Transmittal* (KEY, July, 16, 2003).

Tecumseh Products Company would really like to see the WDNR act and respond on the last two BRRTS cases ASAP cause it have been over a year now.

I hope this helps refresh your memory regarding the BRRTS cases. Please call me with any questions.



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald W. Kazmierczak, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913

June 14, 2004

Dan Pelczar KEY Engineering Group, Ltd. 735 North Water Street Suite 1000 Milwaukee, Wisconsin 53202

Subject:

Status of Tecumseh Products Cases, 1604 Michigan Avenue, New Holstein,

Visconsin (BRRTS #'s: 02-08-363333, 02-08-100332, 03-08-001071, &

02-08-193776)

#### Dear Dan:

I heard you have a new office – hope it is nice. Enclosed are four fax transmittal sheets that I attempted to send to you via fax last Friday and again this morning. Evidently, you fax machine is not operational. Basically, I was wondering about the status of our Tecumseh cases. Thanks Dan.

Yours truly, Menum Mun

Alan Thomas Nass, P.G., P.S.

Hydrogeologist

Encl.

# WISCONSIN DEPT. OF NATURAL RESOURCES

#### State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Scott Hassett, Secretary Ronald Kazmierczak, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

# WASTE MANAGEMENT AND BUREAU FOR REMEDIATION AND REDEVELOPMENT

### **FAX TRANSMITTAL SHEET**

Date:

June 11, 2004

TO

Name:

Dan Pelczar

Company/Agency:

KEY Engineering Group, Ltd.

Fax Number:

414-224-8383

**FROM** 

Name:

Alan Nass /

Company/Agency:

WDNR

Phone Number:

920-492-5861

Pages to follow (excluding cover sheet):

Products - C

Comments/Message: Regarding Tecumseh Products – Contaminated Fill, 1604 Michigan Avenue, New Holstein, WI (BRRTS #: 02-08-193776) >>> Could you please update me as to the status of this case? Based on your letter of 5/20/03, I have a feeling I should have been reviewing this case for closure. Is that correct? If so, I apologize and will do it very shortly after I hear from you. Thanks Dan!



# **Attachment 1**



#### SOIL BORING LOG INFORMATION

T DOME 10	TOO I'M OKMITTION
4400-122	Rev. 7-98

			<u>Ro</u>		Vastewater   /Redevelopment	Waste Other		gement								
				romodiumon	redevelopment	Ollici							Pa	ge 1	of	1
	ty/Proje					License	Permi	t/Monit	oring N	umbe	er	Boring	g Numb	er		
				tion Fill Area								GP-				
	_	d By: I	Name o	f crew chief (first, last) a	and Firm	Date D	rilling !	Started		]]	Date Drill	ing Co	mpleted	l	Dril	ling Method
	l Esse							3/2003				4/8/2	2003			oilprobe
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Sa	nple											Soil	Prop	erties		
	(ii) &	S	#	Soil/R	lock Description											
o	ed (	ount	l Fe	And Go	eologic Origin For				_		5					nete
ober Typ	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Eac	ch Major Unit		CS	hic	1 gram	FID	darc	sture	it id	ticit	0	cet
Number and Type	Len	Blov	Dep				S O	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	Pocket Penetrometer
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			<u>⊢</u> 6	with some gravel	and organics, sligh	ht										
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l l			E-7													
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_			<del>-10</del>	End of s	oil boring at 10'			15-45-36-5								
				*Sample submitte	ed for laboratory as	nalysis										
							library and the same of the sa									
		y that t	he info	rmation on this form is to				-								
Signa	ure				Firm KE	VENG	MEE	RING	GRO	ΙÞ	LTD				Tal: (2	(62) 275 4750

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

W66 N215 COMMERCE CT. CEDARBURG, WI 53012

Fax: (262) 375-9680

#### SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			<u>R</u>	oute To:	Watershed/V Remediation	Wastewater   MRedevelopment	Wast Other		gement								
								-						Pa	ge 1	of	1
	y/Proje						Licens	e/Permi	t/Monito	oring N	umber		Boring	g Numb		P-5A	
					Ill Area hief (first, last)	and Firm	- Date D	rilling S	Started		Ds	ate Drill	ing Cor	mnleted	ling Method		
Co	_	-		or or or	mor (mor, mor)		Date B	_	3/2003			iic Diiii	4/8/2	-			oilprobe
	nique W			DNR	Well ID No.	Common Well Name	Final S		ater Lev	el	Surfac	e Eleva		2003	Во		Diameter
						GP-5A		Feet	MSL				et MS			2.0	inches
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Signat	ure		<u> </u>			le:	EY ENG			GRO	IIP I	TD				Tel· (2	62) 375-4750
		1	2-7		725		66 N215 C						T 53	012			62) 375-9680

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#### SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Ro		Watershed/\					gement									
				F	Remediation	1/Redevelop	ment 📙	Other											
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-	//Projec			ction Fill A	rea			License	/Permi	t/Monito	oring N	umber		Boring	g Numb		-6A		
				of crew chief		and Firm		Date Di	rilling S	Started		Da	te Drill	ing Co	mpleted			ling Method	
Core Soil	ey Esser	ntials	5						4/8	3/2003				4/8/2	2003		So	oilprobe	
WI Un	ique W	ell No	).	DNR Wel	I ID No.		Well Name	Final St			el	Surfac	face Elevation I Feet MSL					Diameter	
Local (	Grid Or	igin	☐ (e	stimated:	l ) or Bo		P-6A	Feet MSL									2.0	inches	
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hereb	y certif	y that	the info	rmation on th	nis form is	true and cor	rect to the be	est of my k	nowled	lge.									
Signatu	ire	2-7	1	025				Y ENG										62) 375-4750	
			~				W6	6 N215 CC	OMME	RCE C	r. ced	ARBU	JRG, W	<sup>7</sup> I 53	012		Fax: (2	62) 375-9680	

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(1) GENERAL INFORMATION		(2) FACIL	ITY NAME	Tecumseh - Ea	st Section Fill Area
Well/Drillhole/Borehole	County		ell Owner (If I		
Location	Calumet	Tecum	seh Product	ts Company	
	🛭 E	Present We			
1/4 of <u>SE</u> _1/4 of Section_	<u>10</u> ; T. <u>17</u> N; R. <u>20</u> ☐ W	Tecum	seh Product	s Company	
(If Applicable)		Street or Ro			
Gov't Lot	Grid Number	1604 M	lichigan Av	enue	
Grid Location		City, State,	Zip Code		
ft. \( \sigma \) N. \( \sigma \) S.,	ft.	New H	olstein, WI	53061	
Civil Town Name				Name (If Applicat	ole) WI Unique Well No.
		GP-4A			
Street Address of Well			Abandonmen	t	
1604 Michigan Avenue		Investig	gative Soilp	robe	
City, Village		Date of Ab			
New Holstein		4/8/03			
WELL/DRILLHOLE/BOREHOLE IN	FORMATION				
(3) Original Well/Drillhole/Borehole	Construction Completed On	(4) Depth t	o Water (Feet)		
(Date) 4/8/03		I ' '	& Piping Remo	,	Yes No Not Applicable
(Date)		-	Removed?		Yes ☐ No ☒ Not Applicable
☐ Monitoring Well	Construction Report Available?	Screen	Removed?	□ Y	es No Not Applicable
☐ Water Well	⊠ Yes □ No	Casing	Left in Place?	□ Y	'es 🛭 No
☐ Drillhole		If No, H	3.7		
⊠ Borehole	•				
		Was Ca	sing Cut Off I	Below Surface?	☐ Yes ☐ No
Construction Type:		i		Rise to Surface?	
Drilled Dr	riven (Sandpoint) Dug	Did Ma	terial Settle A	fter 24 Hours?	☐ Yes ⊠ No
Other (Specify) Soilpro		If Yes,	Was Hole Rete	opped?	☐ Yes ☐ No
					-41
Formation Type:		1		Placing Sealing Ma	
Unconsolidated Formation	☐ Bedrock	_	nductor Pipe -		Conductor Pipe - Pumped
10.0			mp Bailer		Other (Explain) Gravity
Total Well Depth (ft) 10.0	Casing Diameter (in.)		Materials		For monitoring wells and
(From ground surface)	Casing Depth (ft.)		at Cement Gro		monitoring well boreholes only
	2.0		nd-Cement (Co	oncrete) Grout	
Lower Drillhole Diameter (in.)	2.0		ncrete		Bentonite Pellets
WWill A 1 C C	d?		y-Sand Slurry		Granular Bentonite
Was Well Annular Space Groute	d?		ntonite-Sand S	•	Bentonite-Cement Grout
If Yes, To What Depth?	reet	│	ipped Bentonit	e	
(7) Sealing	Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
	, Waterian Osea	Tiom (Ft.)	10 (11.)		With Ratio of Widd Weight
Cetco Crumbles		Surface	10.0		
		Surface	10.0		
(8) Comments					
(9) Name of Person or Firm Doing S	agling Wark	2100	F/	an dan da	NIEW HOLLOW V
, ,	ealing work	(10)			NTY USE ONLY
Key Engineering Group, Ltd. Signature of Person Doing Work	Date Signed	Date	Received/Inspe	eried	District/County
Signature of Person Doing Work	Date Signed 4/15/03				
Street or Route	Telephone Number	- Kevie	wer/Inspector		Complying Work
	1 -	ruli.	v-up Necessar	v	Noncomplying Work
W66 N215 Commerce Court City, State, Zip Code	(262) 375-4750	- Folloy	v-up mecessar	у	
Cedarburg, WI 53012					
Jedaibuid, VVI JJUIZ		1			

(1) GENERAL INFORMATION		(2) FACIL	ITY NAME	Tecumseh - Eas	st Section Fill Area
Well/Drillhole/Borehole	County		ell Owner (If I		
Location	Calumet	Tecum	seh Product	s Company	
	⊠ E	Present We			
1/4 of SE 1/4 of Section	10 ; T. 17 N; R. 20 W	Tecums	seh Product	s Company	
(If Applicable)	, 1. 11,10	Street or Ro		s company	
Gov't Lot	Grid Number	1604 N	lichigan Av	eniie	
Grid Location	Grid (Valide)	City, State,	Zip Code	Citac	
ft. \( \sigma \) N. \( \sigma \) S.,	ft.	1 -	olstein, WI	52061	
Civil Town Name	II E W.			Name (If Applicate	ole) WI Unique Well No.
CIVII TOWII TAILLE		GP-5A	n ivo. una/or i	vame (11 Applicae	WI Sinque Wen 140.
Street Address of Well			Abandonmen	•	
1604 Michigan Avenue City, Village		Date of Ab	gative Soilp	robe	
			andomnem		
New Holstein	TODA (A TION	4/8/03			
WELL/DRILLHOLE/BOREHOLE IN		1			
(3) Original Well/Drillhole/Borehole	Construction Completed On	1	o Water (Feet)		
(Date) 4/8/03		Pump &	የ Piping Remo	-	es   No   Not Applicable
		Liner(s)	Removed?	<u></u>	res No Not Applicable
Monitoring Well	Construction Report Available?	Screen	Removed?		es No Not Applicable
Water Well	⊠ Yes □ No	Casing	Left in Place?	□ Y	es 🛛 No
☐ Drillhole		If No, I	Explain N	4	
□ Borehole	•		-		
		Was Ca	sing Cut Off I	Below Surface?	☐ Yes ☐ No
Construction Type:			_	Rise to Surface?	⊠ Yes □ No
	riven (Sandpoint) Dug	l .	-	fter 24 Hours?	Yes No
Other (Specify) Soilpro		l .	Was Hole Ret		Yes No
23 Office (Specify)					
Formation Type:				Placing Sealing Ma	
		☐ Con	nductor Pipe -		Conductor Pipe - Pumped
Unconsolidated Formation	☐ Bedrock	☐ Du	mp Bailer	$\boxtimes$	Other (Explain) Gravity
Total Well Depth (ft) 10.0	Casing Diameter (in.)	(6) Sealing	Materials		For monitoring wells and
(From ground surface)	Casing Depth (ft.)	1''	at Cement Gro	ut	monitoring well boreholes only
,			id-Cement (Co		months were consisted only
Lower Drillhole Diameter (in.)	_2.0	l	ncrete		Bentonite Pellets
,			y-Sand Slurry		Granular Bentonite
Was Well Annular Space Groute	d?		tonite-Sand S		Bentonite-Cement Grout
If Yes, To What Depth?	Feet	l	pped Bentonit	•	Bentonne-Cement Grout
			pped Dentom	T	
(7) Sealing	g Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
	,				
Cetco Crumbles		Surface	10.0		
	·	Surrace	1010		
(0)		1	1	1	
(8) Comments			······································		
(9) Name of Person or Firm Doing S	ealing Work	(10)	FC	R DNR OR COL	INTY USE ONLY
Key Engineering Group, Ltd.			Received/Inspo		District/County
Signature of Person Doing Work	Date Signed	<b>-</b>			772
2020	4/15/03	Revie	wer/Inspector		Complying Work
Street or Route	Telephone Number		P1		Noncomplying Work
W66 N215 Commerce Court	(262) 375-4750	Follor	v-up Necessar	v	. Noncomplying Work
City, State, Zip Code	(202) 373-4730	- 1	. 401.0003341	J	
Cedarburg, WI 53012					
Cedarburg, VVI JOUIZ		1			

(1) GENERAL INFORMATION	(2) FACILITY NAME Tecumseh - East Section Fill Area
Well/Drillhole/Borehole County	Original Well Owner (If Known)
Location Calumet	Tecumseh Products Company
E E	Present Well Owner
1/4 of <u>SE 1/4 of Section 10</u> ; T. <u>17</u> N; R. <u>20</u> W	Tecumseh Products Company
(If Applicable)	Street or Route
Grid Location Grid Number	1604 Michigan Avenue City, State, Zip Code
ft. N. S., ft. E. W.	New Holstein, WI 53061
Civil Town Name	Facility Well No. and/or Name (If Applicable) WI Unique Well No.
	GP-6A
Street Address of Well	Reason For Abandonment
1604 Michigan Avenue	Investigative Soilprobe
City, Village	Date of Abandonment
New Holstein	4/8/03
WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Original Well/Drillhole/Borehole Construction Completed On	(4) Depth to Water (Feet)
4/9/02	Pump & Piping Removed?  Yes No Not Applicable
(Date) 4/8/03	Liner(s) Removed?  Yes No Not Applicable
☐ Monitoring Well Construction Report Available?	Screen Removed?
	Casing Left in Place? Yes No
☐ Drillhole	If No, Explain NA
Borehole	
	Was Casing Cut Off Below Surface?
Construction Type:	Did Sealing Material Rise to Surface? Yes No
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug	Did Material Settle After 24 Hours?  Yes No
Other (Specify) Soilprobe	If Yes, Was Hole Retopped?
· · · · · · · · · · · · · · · · · · ·	
Formation Type:	(5) Required Method of Placing Sealing Material
Unconsolidated Formation Bedrock	Conductor Pipe - Gravity Conductor Pipe - Pumped
	☐ Dump Bailer ☐ Other (Explain) Gravity
Total Well Depth (ft) 12.0 Casing Diameter (in.)	(6) Sealing Materials For monitoring wells and
(From ground surface) Casing Depth (ft.)	Neat Cement Grout monitoring well boreholes only
	Sand-Cement (Concrete) Grout
Lower Drillhole Diameter (in.) 2.0	☐ Concrete ☐ Bentonite Pellets
<b>,</b> ,	Clay-Sand Slurry S Granular Bentonite
Was Well Annular Space Grouted?	Bentonite-Sand Slurry Bentonite-Cement Grout
If Yes, To What Depth? Feet	Chipped Bentonite
•	Chipped Belitorite
(7) Sealing Material Used	From (Ft.) To (Ft.) Mix Ratio or Mud Weight
Scaling Waterial Oscu	Profit (Ft.) 10 (Ft.) White Ratio of Mild Weight
0.40 11	G C 100
Cetco Crumbles	Surface 12.0
(8) Comments	
(A) M	
(9) Name of Person or Firm Doing Sealing Work	(10) FOR DNR OR COUNTY USE ONLY
Key Engineering Group, Ltd.	Date Received/Inspected District/County
Signature of Person Doing Work Date Signed	
mi m 4/15/03	Reviewer/Inspector Complying Work
Street or Route Telephone Number	Noncomplying Work
W66 N215 Commerce Court (262) 375-4750	Follow-up Necessary
City, State, Zip Code	
Cedarburg, WI 53012	

# **Attachment 2**





Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012 04/22/2003

Job No: 03.02972

Page 1 of 11

The following samples were received by TestAmerica for analysis:

0809004 Tecumseh Products Co.

Sample	Sample Description	Date	Date
Number		Taken	Received
519883 519884 519885 519886 519887 519888 519889 519890 519891	GP-4A 0-2' GP-4A 4-6' GP-4A 8-10' GP-5A 0-2' GP-5A 4-6' GP-5A 8-10' GP-6A 0-2' GP-6A 4-6' GP-6A 8-10'	04/08/2003 04/08/2003 04/08/2003 04/08/2003 04/08/2003 04/08/2003 04/08/2003 04/08/2003	04/09/2003 04/09/2003 04/09/2003 04/09/2003 04/09/2003 04/09/2003 04/09/2003 04/09/2003

Soil results reported on a dry weight basis.

Brian D. DeJong Organic Operations Manager



KEY ENGINEERING GROUP LTD Job No: 03.02972

04/22/2003 Page 2 of 11

#### KEY TO DATA FLAGS

The attached sample(s) may have a result flag shown on the report. The following are the result flag definitions:

- A = Analyzed/extracted past hold time
- B = Blank is contaminated
- C = Standard outside of control limits
- D = Diluted for analysis
- E = TCLP extraction outside of method required temperature range
- F = Sample filtered in lab
- G = Received past hold time
- H = Late eluting hydrocarbons present
- I = Improperly handled sample
- J = Estimated concentration
- L = Common lab solvent and contaminant
- M = Matrix interference
- P = Improperly preserved sample
- Q = Result confirmed via re-analysis
- S = Sediment present
- T = Does not match typical pattern
- W = BOD re-set due to missed dilution
- X = Unidentified compound(s) present
- Z = Internal standard outside limits
- \* = See Case Narrative

#### **KEY TO ANALYST INITIALS**

The attached sample(s) may have been analyzed by another certified laboratory. If a number appears in the Analyst Initials field, the following are the appropriate certifications (if the lab code does not appear below, that means that WDNR certification is not required for the work performed):

Lab Code	Certification Number
800	WDNR - 999766900
009	WDNR - 241293690
020	WDNR - 999447680
030	ILNELAC - 100230; WDNR - 998294430
060	ILNELAC - 100221; WDNR - 999447130
070	IA - 007; ILNELAC - 000668; MDH - 019-999-319; WDNR - 999917270
130	WDNR - 632021390
147	WDNR - 721026460
300	FLNELAC - 87358; IA - 131; MDH - 047-999-345; WDNR - 998020430
400	WDNR - 113133790
510	WDNR - 241249360
520	WDNR - 999518190; ILNELAC - 100439
700	WDNR - 113289110

TestAmerica Watertown WDNR - 128053530; IDNR - 294; MDH - 055-999-366; ND - R-046

For questions regarding this report, please contact Dan Milewsky or Warren Topel.



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012

04/22/2003 Job No: 03.02972 Sample No: 519883 Account No: 45150 Page 3 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: Soil Analysis SAMPLE DESCRIPTION:

GP-4A 0-27

New Holstein, WI Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 14:10 Date Received: 04/09/2003

			Reporting		Date		Pre	p/Run
Parameter	Results	Units	Limit	Method	Analyzed	Analys	t Ba	tch
Solids, Total	86.9	%	n/a	SW 5035	04/10/2003	kls		4835
Prep, PCB - NONAQUEOUS	Complete				04/11/2003	070	695	
PCB'S - 8082 NONAQUEOUS						070		
PCB-1016	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1221	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1232	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1242	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1248	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1254	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB~1260	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
Surr: TCMX	72	%	n/a	SW 8082	04/15/2003	070	695	1005
Surr: DCB	85	8	n/a	SW 8082	04/15/2003	070	695	1005



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court

Cedarburg, WI 53012

04/22/2003

Job No: 03.02972 Sample No: 519884 Account No: 45150

Page 4 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co. PROJECT DESCRIPTION: Soil Analysis

SAMPLE DESCRIPTION:

GP-4A 4-6'

New Holstein, WI Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 14:20 Date Received: 04/09/2003

			Reporting		Date		Prep/Run
Parameter	Results	Units	Limit	Method	Analyzed	Analyst	Batch
Solids, Total	82.8	%	n/a	SW 5035	04/10/2003	kls	4835
Prep, PCB - NONAQUEOUS	Complete				04/11/2003	070	695
PCB'S - 8082 NONAQUEOUS						070	
PCB-1016	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695 1005
PCB-1221	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695 1005
PCB-1232	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695 1005
PCB-1242	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695 1005
PCB-1248	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695 1005
PCB-1254	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695 1005
PCB-1260	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695 1005
Surr: TCMX	80	%	n/a	SW 8082	04/15/2003	070	695 1005
Surr: DCB	76	8	n/a	SW 8082	04/15/2003	070	695 1005
PNA Extraction	04/16/2003			SW 3550B	04/16/2003	jts	698
PNA - 8310 NONAQUEOUS	M						
Acenaphthene	<600	ug/kg	50	SW 8310	04/21/2003	clj	698 1543
Acenaphthylene	<1,000	ug/kg	85	SW 8310	04/21/2003	clj	698 1543
Anthracene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Benzo(a)anthracene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Benzo(b)fluoranthene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Benzo(k)fluoranthene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Benzo(a)pyrene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Benzo(ghi)perylene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Chrysene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Dibenzo(a,h)anthracene	<91	ug/kg	7.5	SW 8310	04/21/2003	clj	698 1543
Fluoranthene	<120	ug/kg	10	SW 8310	04/21/2003	clj	698 1543
Fluorene	<120	ug/kg	10	SW 8310	04/21/2003	clj	698 1543
Indeno(1,2,3-cd)pyrene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
1-Methylnaphthalene	<360	ug/kg	30	SW 8310	04/21/2003	clj	698 1543
2-Methylnaphthalene	<300	ug/kg	25	SW 8310	04/21/2003	clj	698 1543
Naphthalene	<360	ug/kg	30	SW 8310	04/21/2003	clj	698 1543
Phenanthrene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Pyrene	<60	ug/kg	5.0	SW 8310	04/21/2003	clj	698 1543
Surr: 2-Fluorobiphenyl	D/O	ug/L	51-130	SW 8310	04/21/2003	clj	698 1543



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012 04/22/2003 Job No: 03.02972 Sample No: 519885 Account No: 45150 Page 5 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: SAMPLE DESCRIPTION:

Soil Analysis GP-4A 8-10'

New Holstein, WI Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 14:30 Date Received: 04/09/2003

		I	Reporting		Date		Pre	p/Run
Parameter	Results	Units	Limit	Method	Analyzed	Analyst	Ba	tch
Solids, Total	82.4	%	n/a	SW 5035	04/10/2003	kls		4835
Prep, PCB - NONAQUEOUS	Complete				04/11/2003	070	695	
PCB'S - 8082 NONAQUEOUS						070		
PCB-1016	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1221	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1232	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1242	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1248	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1254	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1260	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
Surr: TCMX	87	*	n/a	SW 8082	04/15/2003	070	695	1005
Surr: DCB	89	8	n/a	SW 8082	04/15/2003	070	695	1005
PNA Extraction	04/16/2003			SW 3550B	04/16/2003	jts	698	
PNA - 8310 NONAQUEOUS								
Acenaphthene	<61	ug/kg	50	SW 8310	04/18/2003	clj	698	1542
Acenaphthylene	<100	ug/kg	85	SW 8310	04/18/2003	clj	698	1542
Anthracene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(a)anthracene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(b)fluoranthene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(k)fluoranthene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(a)pyrene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(ghi)perylene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Chrysene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Dibenzo(a,h)anthracene	<9.1	ug/kg	7.5	SW 8310	04/18/2003	clj	698	1542
Fluoranthene	<12	ug/kg	10	SW 8310	04/18/2003	clj	698	1542
Fluorene	<12	ug/kg	10	SW 8310	04/18/2003	clj	698	1542
Indeno(1,2,3-cd)pyrene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
1-Methylnaphthalene	<36	ug/kg	30	SW 8310	04/18/2003	clj	698	1542
2-Methylnaphthalene	<30	ug/kg	25	SW 8310	04/18/2003	clj	698	1542
Naphthalene	<36	ug/kg	30	SW 8310	04/18/2003	clj	698	1542
Phenanthrene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Pyrene	<6.1	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Surr: 2-Fluorobiphenyl	107	8	51-130	SW 8310	04/18/2003	clj	698	1542



Mr. Dan Pelczar

KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012

04/22/2003

Job No: 03.02972 Sample No: 519886 Account No: 45150

Page 6 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: Soil Analysis

GP-5A 0-2'

SAMPLE DESCRIPTION:

New Holstein, WI

Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 13:20 Date Received: 04/09/2003

	Reporting				Date	Prep/Run			
Parameter	Results	Units	Limit	Method	Analyzed	Analys	ва Ва	tch	
Solids, Total	87.2	왐	n/a	SW 5035	04/10/2003	kls		4835	
Prep, PCB - NONAQUEOUS	Complete				04/11/2003	070	695		
PCB'S - 8082 NONAQUEOUS						070			
PCB-1016	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005	
PCB-1221	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005	
PCB-1232	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005	
PCB-1242	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005	
PCB-1248	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005	
PCB-1254	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005	
PCB-1260	<0.29	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005	
Surr: TCMX	83	%	n/a	SW 8082	04/15/2003	070	695	1005	
Surr: DCB	93	8	n/a	SW 8082	04/15/2003	070	695	1005	



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012

04/22/2003 Job No: 03.02972 Sample No: 519887 Account No: 45150 Page 7 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: Soil Analysis SAMPLE DESCRIPTION:

GP-5A 4-6'

New Holstein, WI Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 13:30 Date Received: 04/09/2003

		Date		Prep/Run				
Parameter	Results	Units	Limit	Method	Analyzed	Analyst	Ba	tch
n. T. Mar. Brown	07. 6		1.	077 5025	24/22/222	1.7		4005
Solids, Total	91.6	%	n/a	SW 5035	04/10/2003 04/11/2003	kls 070	COF	4835
Prep, PCB - NONAQUEOUS	Complete				04/11/2003		695	
PCB'S - 8082 NONAQUEOUS	.0.00	/1	0.25	GM 0000	04/15/2002	070	cor	1005
PCB-1016	<0.28	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1221	<0.28	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1232	<0.28	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1242	<0.28	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1248	<0.28	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1254	<0.28	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1260	<0.28	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
Surr: TCMX	89	왕	n/a	SW 8082	04/15/2003	070	695	1005
Surr: DCB	93	%	n/a	SW 8082	04/15/2003	070	695	1005
PNA Extraction	04/16/2003			SW 3550B	04/16/2003	jts	698	
PNA - 8310 NONAQUEOUS M								
Acenaphthene	<550	ug/kg	50	SW 8310	04/21/2003	clj	698	1543
Acenaphthylene	<930	ug/kg	85	SW 8310	04/21/2003	clj	698	1543
Anthracene	<55	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Benzo(a)anthracene	<55	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Benzo(b)fluoranthene	<55	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Benzo(k)fluoranthene	<55	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Benzo(a)pyrene	<55	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Benzo(ghi)perylene	<55	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Chrysene	69	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Dibenzo(a,h)anthracene	<82	ug/kg	7.5	SW 8310	04/21/2003	clj	698	1543
Fluoranthene	<110	ug/kg	10	SW 8310	04/21/2003	clj	698	1543
Fluorene	<110	ug/kg	10	SW 8310	04/21/2003	clj	698	1543
Indeno(1,2,3-cd)pyrene	<55	ug/kg	5.0	SW 8310	04/21/2003	cli	698	1543
1-Methylnaphthalene	<330	ug/kg	30	SW 8310	04/21/2003	clj	698	1543
2-Methylnaphthalene	<270	ug/kg	25	SW 8310	04/21/2003	clj	698	1543
Naphthalene	<330	ug/kg	30	SW 8310	04/21/2003	clj	698	1543
Phenanthrene	175	ug/kg	5.0	SW 8310	04/21/2003	cli	698	1543
Pyrene	131	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543
Surr: 2-Fluorobiphenyl	91	% %	51-130	SW 8310	04/21/2003	clj	698	1543
our. I ridoropiphenyi	<i>&gt;</i> ±	o	21-130	PW 03TO	04/21/2003	ردن	020	T3#3



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012

04/22/2003 Job No: 03.02972 Sample No: 519888 Account No: 45150 Page 8 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: Soil Analysis SAMPLE DESCRIPTION:

GP-5A 8-10'

New Holstein, WI Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 13:35 Date Received: 04/09/2003

		F		Date		Pre	p/Run	
Parameter	Results	Units	Limit	Method	Analyzed	Analyst	Ва	tch
			,		/ /			
Solids, Total	82.7	8	n/a	SW 5035	04/10/2003	kls		4835
Prep, PCB - NONAQUEOUS	Complete				04/11/2003	070	695	
PCB'S - 8082 NONAQUEOUS					/ /	070		
PCB-1016	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1221	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1232	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1242	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1248	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1254	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1260	<0.30	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
Surr: TCMX	76	%	n/a	SW 8082	04/15/2003	070	695	1005
Surr: DCB	84	왕	n/a	SW 8082	04/15/2003	070	695	1005
PNA Extraction	04/16/2003			SW 3550B	04/16/2003	jts	698	
PNA - 8310 NONAQUEOUS								
Acenaphthene	<60	ug/kg	50	SW 8310	04/18/2003	clj	698	1542
Acenaphthylene	<100	ug/kg	85	SW 8310	04/18/2003	clj	698	1542
Anthracene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(a)anthracene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(b) fluoranthene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(k) fluoranthene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(a)pyrene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(ghi)perylene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Chrysene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Dibenzo(a,h)anthracene	<9.1	ug/kg	7.5	SW 8310	04/18/2003	clj	698	1542
Fluoranthene	<12	ug/kg	10	SW 8310	04/18/2003	clj	698	1542
Fluorene	<12	ug/kg	10	SW 8310	04/18/2003	clj	698	1542
Indeno(1,2,3-cd)pyrene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
1-Methylnaphthalene	<36	ug/kg	30	SW 8310	04/18/2003	clj	698	1542
2-Methylnaphthalene	<30	ug/kg	25	SW 8310	04/18/2003	clj	698	1542
Naphthalene	<36	ug/kg	30	SW 8310	04/18/2003	clj	698	1542
Phenanthrene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Pyrene	<6.0	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Surr: 2-Fluorobiphenyl	101	%	51-130	SW 8310	04/18/2003	cli	698	1542
* *					, ,	,		



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD

W66 N215 Commerce Court Cedarburg, WI 53012

04/22/2003

Job No: 03.02972 Sample No: 519889 Account No: 45150

Page 9 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: Soil Analysis SAMPLE DESCRIPTION:

GP-6A 0-2'

New Holstein, WI

Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 13:40 Date Received: 04/09/2003

Parameter		Results	Units	Reporting Limit	Me	ethod	Date Analyzed	Analys		p/Run tch
Solids, Total		86.6	%	n/a	SW	5035	04/10/2003	kls		4835
Prep, PCB - NONAQUEOUS		Complete					04/11/2003	070	695	
PCB'S - 8082 NONAQUEOUS	M							070		
PCB-1016		<1.4	mg/kg	0.25	SW	8082	04/18/2003	070	695	1006
PCB-1221		<1.4	mg/kg	0.25	SW	8082	04/18/2003	070	695	1006
PCB-1232		<1.4	mg/kg	0.25	SW	8082	04/18/2003	070	695	1006
PCB-1242		<1.4	mg/kg	0.25	SW	8082	04/18/2003	070	695	1006
PCB-1248		<1.4	mg/kg	0.25	SW	8082	04/18/2003	070	695	1006
PCB-1254		1.5	mg/kg	0.25	SW	8082	04/18/2003	070	695	1006
PCB-1260		<1.4	mg/kg	0.25	SW	8082	04/18/2003	070	695	1006
Surr: TCMX		119	8	n/a	SW	8082	04/18/2003	070	695	1006
Surr: DCB		112	8	n/a	SW	8082	04/18/2003	070	695	1006



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012

04/22/2003 Job No: 03.02972 Sample No: 519890 Account No: 45150 Page 10 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: Soil Analysis SAMPLE DESCRIPTION:

GP-6A 4-67

New Holstein, WI Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 13:45 Date Received: 04/09/2003

			Reporting		Date		Prep/Run		
Parameter	Results	Units	Limit	Method	Analyzed	Analyst	. Ba	tch	
		_	,						
Solids, Total	84.7	%	n/a	SW 5035	04/10/2003	kls		4835	
Prep, PCB - NONAQUEOUS	Complete				04/11/2003	070	695		
PCB'S - 8082 NONAQUEOUS M						070			
PCB-1016	<0.60	mg/kg	0.25	SW 8082	04/17/2003	070	695	1007	
PCB-1221	<0.60	mg/kg	0.25	SW 8082	04/17/2003	070	695	1007	
PCB-1232	<0.60	mg/kg	0.25	SW 8082	04/17/2003	070	695	1007	
PCB-1242	<0.60	mg/kg	0.25	SW 8082	04/17/2003	070	695	1007	
PCB-1248	<0.60	mg/kg	0.25	SW 8082	04/17/2003	070	695	1007	
PCB-1254	<0.60	mg/kg	0.25	SW 8082	04/17/2003	070	695	1007	
PCB-1260	<0.60	mg/kg	0.25	SW 8082	04/17/2003	070	695	1007	
Surr: TCMX	89	8	n/a	SW 8082	04/17/2003	070	695	1007	
Surr: DCB	99	왐	n/a	SW 8082	04/17/2003	070	695	1007	
PNA Extraction	04/16/2003			SW 3550B	04/16/2003	jts	698		
PNA - 8310 NONAQUEOUS									
Acenaphthene	<59	ug/kg	50	SW 8310	04/21/2003	clj	698	1543	
Acenaphthylene	<100	ug/kg	85	SW 8310	04/21/2003	clj	698	1543	
Anthracene	<5.9	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543	
Benzo(a) anthracene	86	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543	
Benzo(b)fluoranthene	12	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543	
Benzo(k)fluoranthene	26	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543	
Benzo(a)pyrene	60	ug/kg	5.0	SW 8310	04/21/2003	cli	698	1543	
Benzo(qhi)perylene	89	ug/kg	5.0	SW 8310	04/21/2003	cli	698	1543	
Chrysene	34	ug/kg	5.0	SW 8310	04/21/2003	cli	698	1543	
Dibenzo(a,h)anthracene	<8.9	ug/kg	7.5	SW 8310	04/21/2003	cli	698	1543	
Fluoranthene	142	ug/kg	10	SW 8310	04/21/2003	clj	698	1543	
Fluorene	<12	ug/kg	1.0	SW 8310	04/21/2003	cli	698	1543	
Indeno(1,2,3-cd)pyrene	30	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543	
1-Methylnaphthalene	<35	ug/kg	30	SW 8310	04/21/2003	clj	698	1543	
2-Methylnaphthalene	<30	ug/kg	25	SW 8310	04/21/2003	clj	698	1543	
Naphthalene	<35	ug/kg	30	SW 8310	04/21/2003	cli	698	1543	
Phenanthrene	57	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543	
Pyrene	236	ug/kg	5.0	SW 8310	04/21/2003	clj	698	1543	
Surr: 2-Fluorobiphenyl	86	%	51-130	SW 8310	04/21/2003	clj	698	1543	
Dall. I I totobapiony a	55	· ·	31 130	DW 03T0	U-1/21/2003	زدت	0 7 0	1.040	



Mr. Dan Pelczar KEY ENGINEERING GROUP LTD W66 N215 Commerce Court Cedarburg, WI 53012

04/22/2003 Job No: 03.02972 Sample No: 519891 Account No: 45150 Page 11 of 11

JOB DESCRIPTION: 0809004 Tecumseh Products Co.

PROJECT DESCRIPTION: Soil Analysis SAMPLE DESCRIPTION:

GP-6A 8-10'

New Holstein, WI Rec'd at 4 degrees C

Date/Time Taken: 04/08/2003 13:55 Date Received: 04/09/2003

			Reporting		Date		Pre	p/Run
Parameter	Results	Units	Limit	Method	Analyzed	Analyst	Ва	tch
0.313	F0 0		,	an 5025	0.4 / 1.0 / 0.000	1.7		4025
Solids, Total	78.0	왕	n/a	SW 5035	04/10/2003	kls		4835
Prep, PCB - NONAQUEOUS	Complete				04/11/2003	070	695	
PCB'S - 8082 NONAQUEOUS		42				070		
PCB-1016	<0.32	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1221	<0.32	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1232	<0.32	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1242	<0.32	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1248	<0.32	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1254	<0.32	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
PCB-1260	<0.32	mg/kg	0.25	SW 8082	04/15/2003	070	695	1005
Surr: TCMX	55	왐	n/a	SW 8082	04/15/2003	070	695	1005
Surr: DCB	74	%	n/a	SW 8082	04/15/2003	070	695	1005
PNA Extraction	04/16/2003			SW 3550B	04/16/2003	jts	698	
PNA - 8310 NONAQUEOUS								
Acenaphthene	<64	ug/kg	50	SW 8310	04/18/2003	clj	698	1542
Acenaphthylene	<110	ug/kg	85	SW 8310	04/18/2003	clj	698	1542
Anthracene	<6.4	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(a)anthracene	14	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(b)fluoranthene	<6.4	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(k)fluoranthene	<6.4	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(a)pyrene	<6.4	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Benzo(ghi)perylene	<6.4	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Chrysene	14	ug/kg	5.0	SW 8310	04/18/2003	clj	698	1542
Dibenzo(a,h)anthracene	<9.6	ug/kg	7.5	SW 8310	04/18/2003	clj	698	1542
Fluoranthene	31	ug/kg	10	SW 8310	04/18/2003	clj	698	1542
Fluorene	<13	ug/kg	10	SW 8310	04/18/2003	clj	698	1542
Indeno(1,2,3-cd)pyrene	<6.4	ug/kg	5.0	SW 8310	04/18/2003	cli	698	1542
1-Methylnaphthalene	<38	ug/kg	30	SW 8310	04/18/2003	clj	698	1542
2-Methylnaphthalene	<32	ug/kg	25	SW 8310	04/18/2003	clj	698	1542
Naphthalene	<38	ug/kg	30	SW 8310	04/18/2003	-	698	1542
Phenanthrene	19	ug/kg	5.0	SW 8310	04/18/2003	•	698	1542
Pyrene	36	ug/kg	5.0	SW 8310	04/18/2003	_	698	1542
Surr: 2-Fluorobiphenyl	102	%	51-130	SW 8310	04/18/2003	-	698	1542
	<b>-</b>	-		0310	0 4/ 20/ 2003	ردن	0,00	/ 14

# Test/merica Watertown Division 602 Commerce Drive Watertown, WI 53094

Phone 920-261-1660 or 800-833-7036

Fax 920-261-8120

03,02972 To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes? Compliance Monitoring

Client Name KEY ENGINEERING Client#: WT45150 Address: WGG N 215 COMMERCE CT. Project Name: TECUMSEH PRODUCTS CO. City/State/Zip Code: CEDARBURG WI 53012 Project #: 0809004 Site/Location ID: NEW HOLSTEIN State: WIT Project Manager: DAN PELCZAR Telephone Number: (262) 375 - 4750 Fax: 375 - 9480 Report To: DAN PELCZAR Sampler Name: (Print Name) MIKE MANTZ Invoice To: KEY Quote #: 03050 PO#: Sampler Signature: 27 22 Matrix Preservation & # of Containers Analyze For: QC Deliverables SL - Studge DW - Drinking Water GW - Grounthwater S - Soil/Solid WW - Wastewater Specify Other Standard None Rush (surcharges may apply) Level 2 (Batch QC) Date Needed: Level 3 Level 4 Other (Specify) Fax Results: (V) N Other:  $\bar{\mathbb{Q}}$ SAMPLE ID REMARKS 4/8/03 GP-44 10-2' 2:10 SOIL GP-4A (4-6' 2:20 GP-4A (8-10' 2:30 GP-54 (0-2') 1:20 1:30 3 GP - 5A (4-6) GP-5A (8-10' 3 1:35 GP-6A (0-2' 1.40 GP-6A (4-6) 1.45 GP-6A (8-10 1:55 Special instructions: LABORATORY COMMENTS: Init Lab Temp: Rec Lab Temp: Time: 145 Relinquished By: 2 Received By Date: Time: Custody Seals: Y Bottles Supplied by Test America: Y Vime: Relinquished By: Received By: Time: 4/9/03 Date Received By: Method of Shipment: V Relinguished By: Date: Time:

124/10/03



#### State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary Ronald W. Kazmierczak, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

May 31, 2000

Mr. Kerry DeKeyser Tecumseh Products 1604 Michigan Avenue New Holstein, Wisconsin 53061

Subject:

Case Closure Review, Tecumseh Products, Contaminated Fill Area at MW-1, 1604 Michigan Avenue, New Holstein, Wisconsin BRRTS #: 02-08-193776

Dear Mr. DeKeyser:

I have completed my review of the above case that was submitted for closure and have noted some information to be missing. Upon receipt of this information, the case closure review process will continue.

In the Department's letter dated 10/12/98 that was addressed to yourself (copy attached), the Department required analysis for PAHs and PCBs in addition to the analysis for VOCs and RCRA metals. The PCB and PAH analyses do not appear to have been done. For the Department to consider this case for closure, PCB and PAH analyses of the soil will be needed in the area around monitoring well MW-1.

The Department will require a minimum of three soil borings in the fill around MW-1 (by GP-4, GP-5 and GP-6) with analysis for PCBs and PAHs. Samples for analysis should be collected from within the fill material and the native material immediately below the fill material. In addition, due to the thickness of the fill material, two soil samples from within the fill per boring should be analyzed for PCBs (i.e. a total of three PCB analyses per boring).

Once this data has been submitted to the Department, the closure review of this case will continue. Thank you for your cooperation in this matter. If you have any questions, please contact me in Green Bay at 920-492-5861.

Yours truly,

Alan Thomas Nass, P.G.

Hydrogeologist

**Enclosure** 

Cc: Curtis Hoffart, KEY Engineering Group, W66 N215 Commerce Court, Cedarburg,

Wisconsin 53012 Dale Ziege – RR/3

alku Glernar Mare





## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary William R. Selbig, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

October 12, 1998

Mr. Kerry DeKeyser Tecumseh Products 1604 Michigan Avenue New Holstein, WI 53061

Subject:

Acknowledgement of Receipt/Site Investigation Work Plan, Tecumseh Products - East Section Contaminated Fill Area, 1604 Michigan Avenue, New Holstein, Wisconsin, Calumet County, WDNR BRRTS ID# 02-08-193776

Dear Mr. DeKeyser:

I have received and reviewed the above-referenced submittal from your environmental consultant, Key Engineering. However, staffing and workload levels do not allow me to provide you with detailed review and oversight at this time.

Therefore, this letter serves as your "Notice to Proceed" with investigation and remediation of the site. All actions must comply with all applicable statutes, program guidance, standards and Administrative Rules. This letter is not an approval of your work plans and reports. They will be filed as public records until the Department is able to review them, or until site remediation is completed.

In addition to the work proposed by your consultant and based on my discussions with them today, you should include the following:

- 1. Drill at least two additional soil borings, one located north of SB-6/MW-1 and one located west of SB-6/MW-1. All borings should be drilled within a reasonable distance to the contaminated fill found at SB-6/MW-1. These would be used in addition to the ones proposed by your consultant to identify whether fill material impacts detected at SB-6/MW-1 have impacted native soils beyond the known area of fill by defining the limits of fill.
- 2. Because of the unknown waste types present, samples should also be analyzed for PAHs and PCBs, in addition to VOCs and the eight RCRA metals.
- 3. Your consultant has indicated today that a starting date for the investigative field work has not been identified yet. We would like to observe and potentially collect samples during the drilling. Please notify us at least 5 working days prior to drilling activities.

Your consultant must follow the Wisconsin Administrative Code NR 700 series. It is very important that your consultant understands and meets the minimum standards established by the Department; however, you, as the responsible party, are ultimately responsible for the







ENVIRONMENTAL . CIVIL/GEOTECH .. COMPLIANCE

W66 N215 Commerce Court Cedarburg, Wisconsin 53012 (262) 375-4750 (800) 645-7365 Fax (262) 375-9680

March 14, 2000

Mr. Alan Nass Wisconsin Department of Natural Resources Northeast Region 1125 North Military Avenue Post Office Box 10448 Green Bay, Wisconsin 53407-0448

Reference:

Case Closure Request/

Limited Site Investigation Report Tecumseh-East Section Fill Area 1604 Michigan Avenue

New Holstein, Wisconsin WDNR BRRTS #02-08-193776

RECEIVED MAR 1 5 2000

LMD SOLID WASTE

KEY ENGINEERING GROUP, LTD. File No. 0809004

Dear Mr. Nass:

The purpose of this letter is to provide the Wisconsin Department of Natural Resources (WDNR) with the results of the limited site investigation (LSI) and request case closure for the above referenced site. This letter was prepared by Key Engineering Group, Ltd. (KEY) on behalf of Tecumseh Products Company (Tecumseh).

#### **Purpose and Objectives**

Approximately 8 feet of fill material, which included paint chips, metal shavings and ash, was encountered during the gasoline leaking underground storage tank (LUST) site investigation in the East Section (WDNR LUST ID# 03-08-01070). The fill material was encountered at soil boring SB-6 (MW-1), located near the northeast corner of the Tecumseh facility. Concentrations of benzene, ethylbenzene, xylenes and trimethylbenzenes were detected in a sample of the fill material collected from 4 to 6 feet below ground surface (bgs). The benzene concentration exceeded the NR 720 generic residual contaminant level (GRCL) based on the protection of groundwater.

The WDNR notified Tecumseh in a July 29, 1998 letter to submit a work plan for the investigation of the fill material impacts since they appeared to be unrelated to the East Section LUST impacts. Additionally, the WDNR notified Tecumseh in an August 4, 1998 letter that management of this area of contamination in accordance with NR 700 through NR 728 is required.

The objectives of the LSI were to identify whether fill material impacts detected at SB-6/MW-1 have impacted native soils beyond the area of fill and evaluate whether remedial action associated with the fill material impacts is warranted. Additionally, LSI data was also used to evaluate whether the fill material impacts at SB-6/MW-1 are representative of an isolated area or are indicative of a widespread area of contaminated fill material.

#### **Background Information**

Significant soil and groundwater sample data has been collected in the vicinity of the Fill Area in association with the East Section LUST case. LUST case data was most previously documented in KEY's January 27, 2000 Case Closure Request.

Mr. Alan Nass March 14, 2000 Page 2

LUST case information pertinent to the Fill Area is summarized as follows:

- The groundwater flow direction in the East Section is northerly to northwesterly.
- MW-1 was the only monitoring well installed within the area of fill material (other than areas of exclusively soil fill).
- The average depth to groundwater at MW-1 is approximately 12 feet bgs; soil contamination within fill material is not present at depths greater than 6 to 7 feet bgs at SB-6/MW-1.
- No petroleum volatile organic compounds (VOCs) (most significant contaminants detected in fill material concentrations) have historically been detected in groundwater within or downgradient of the Fill Area (MW-1 and MW-12, respectively).

#### **Investigation Procedures**

The LSI was conducted in general accordance with KEY's October 6, 1998 Limited Site Investigation Work Plan and October 12 and 15, 1998 letters from the WDNR. The LSI consisted of advancing three soil probes to the north, west and south of SB-6/MW-1 (GP-4, GP-5 and GP-6). One soil probe was also conducted east of SB-6/MW-1 in conjunction with LUST investigation activities conducted concurrently with the LSI (GP-3). The soil probes were advanced with a truck-mounted Geoprobe<sup>®</sup> unit operated by Briohn Environmental Contractors, Inc. on September 29, 1999. The soil probe locations are depicted on Figure 1.

Each soil probe was advanced to 10 or 12 feet bgs. Soil samples were collected at 2-foot intervals and were classified in the field in accordance with the Unified Soil Classification System. Each soil sample was also field screened for the presence of VOCs with a photoionization detector (PID). Two soil samples collected from GP-4, GP-5 and GP-6 were submitted to Great Lakes Analytical laboratory for analysis of VOCs and Resource Conservation and Recovery Act metals. One soil sample collected from GP-3 (LUST soil probe) was submitted for gasoline range organics and petroleum volatile organic compounds. Soil boring and sampling information, soil sample classification data and field screening results are documented on soil boring logs included in Attachment 1.

#### Results

Approximately 8 to 9 feet of fill material consisting of silty clay or clayey silt with glass and wood fragments was encountered at GP-4, GP-5 and GP-6. The fill material was underlain by sandy clay, sandy silt or silty clay. Fill material was not encountered at GP-3. The depth and type of fill material was generally consistent with the fill documented by Dames & Moore at SB-6/MW-1. The depth to groundwater in MW-1 at the time of the LSI was approximately 12 feet bgs.

Soil sample field screening results generally indicated PID readings above background for soil samples collected from the fill material at GP-4, GP-5 and GP-6. Lower PID readings were measured in underlying native soils. No significant PID readings were measured at GP-3. Soil sample field screening results are included on the attached boring logs.

The soil sample analytical results are summarized in Table 1 and on Figure 2 and the Great Lakes Analytical laboratory report and chain of custody documentation are included in Attachment 2. The soil sample analytical results indicated that several VOCs were detected in soil samples collected primarily from fill material at depths of 4 to 6 bgs or 6 to 8 bgs. The VOCs were generally petroleum related with the exception of 1,2-dichlorobenzene and 2,2-dichloropropane, which were detected at GP-4 and/or GP-5. Naphthalene and xylene were detected at concentration exceeding NR 720 or WDNR interim guidance GRCLs for the protection of groundwater in soil samples collected from fill material at GP-4 and GP-5. No NR 720 GRCLs or United States Environmental Protection Agency preliminary remediation goals or soil screening levels were exceeded in soil samples collected at GP-6 or GP-3 or in native soils underlying fill material. Benzene was not detected in any of the soil samples.

Several metals were detected at low (background) concentrations in soil and fill material samples.

#### **Conclusions**

Based on the LUST case and LSI results, further investigation and remedial action associated with the on-site fill material is not considered warranted. This conclusion is supported by the following rationale:

- Residual fill material petroleum VOC impacts are confined to the layer of fill material and have not significantly impacted underlying native soils.
- Residual contaminant concentrations do present a direct contact risk.
- Based on the lack of groundwater impacts within and down gradient of the Fill Area, residual benzene, naphthalene and xylene concentrations in soil represent a localized area within the Fill Area, and therefore, do not represent a significant source of future groundwater impacts.
- No land use changes are projected at the site.

Based on the LUST case/LSI data and this rationale, case closure is appropriate.

Sincerely,

KEY ENGINEERING GROUP, LTD.

Curtis M. Hoffart, CHMM

**Project Scientist** 

Gregory L. Johnson, CHMM, P.G., P.E.

Manager of Technical Services

CMH/mas

Enclosures:

Table 1

Summary of Soil Sample Analytical Results

Figure 1

Site Layout

Figure 2

Summary of Soil and Groundwater Sample Analytical Results

Attachment 1

Soil Boring Logs/Abandonment Forms

Attachment 2

Laboratory Report and Chain of Custody Documentation

cc: Mr. Kerry DeKeyser, Tecumseh Products Company

H:\PROJECTS\1998\0809004\LETTERS\031400.cmh.wpd

TABLE 1

#### SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

#### **TECUMSEH - EAST SECTION FILL AREA**

1604 Michigan Avenue New Holstein, Wisconsin

	GP-3	G	P-4	G	GP-5		P-6	SB-6 / MW-14	NR 720		EPA
					•		0	20-0 / MAA-1	GRCL	PRG	
Depth (feet)	6-8	6-8	10-12	4-6	10-12	4-6	10-12	4-6	GROL	PKG	SSL
PID (i.u.)	3	67	3	140	4	182	4	1,011	<b> </b>		<b> </b> -
Detected VOCs (µg/kg)					T	102		1,011			ļ
Benzene	<25	<25	<25	<25	<25	<25	<25	1,500	5.5	1,400	30
n-Butylbenzene		1,300	120	2,200	<25	620	<25	7,500	5.5		
sec-Butylbenzene		<25	<25	1,700	<25	300	<25			5.5 E 05	
tert-Butylbenzene		620	<25	450	<25	<25	<25	***	l	4.1 E 05	
1,2-Dichlorobenzene		<25	<25	360	<25	<25	<25			4.9 E 05	<del></del> -
2,2-Dichloropropane		53	<25	<25	<25	<25	<25			3.7 E 05	1.7 E 04
Di-Isopropyl ether		<25	<25	<25	<25	200	<25				
Ethylbenzene	<25	210	<25	2,200	34	440	<25	1,600		00505	
Isopropylbenzene		430	<25	2,200	<25	210	<25	1,000	2,900	2.3 E 05	1.3 E 04
Naphthalene		410	110	2,500	<25	190	<25		400 <sup>1</sup>	5.2 E 05	
n-Propylbenzene		360	<25	1,200	<25	240	<25			1.9 E 05	8.4 E 04
Toluene	<25	200	<25	250	<25	90	<25		4 500	5.5 E 05	
1,2,4-Trimethylbenzene	<25	750	95	2,000	38	870	<25	1.800	1,500	5.2 E 05	1.2 E 04
1,3,5-Trimethylbenzene	140	450	<25	1,200	<25	320	<25	1,100		1.7 E 05	
Xylene	<25	750	<25	9.700	170	970	<25	1,100	4,100	7.0 E 04	1 0 5 0 5
Detected Metals (mg/kg) <sup>5</sup>							120	1,000	4,100	2.8 E 05 <sup>2</sup>	1.9 E 05 <sup>2</sup>
Barium		64	<28	71	<28	43	35			10505	4.000
Chromium		14	3,9	13	4.8	12	8.8		200 <sup>3</sup>	1.0 E 05	1,600
Lead	-	13	<1.1	35	<1.1	14	6.7		500 <sup>3</sup>	4,500	38
Mercury		0.083	<0.045	0.13	<0.045	<0.049	<0.044			1,000	
Selenium		1.0	0.63	1.6	<0.56	1.8	<0.56			560 10.000	 5

#### Notes

Bold concentration exceeds applicable GRCL or SSL based on the protection of groundwater

- 1 WDNR interim guidance
- 2 o-xylene referenced
- 3 industrial direct contact GRCL
- 4 soil boring by Dames & Moore (10/91)
- 5 Arsenic, Cadmium and Silver were analyzed but not detected
- --- not analyzed or not applicable

GRCL - NR 720 generic residual contaminant level based on the protection of groundwater

mg/kg - milligrams per kilogram

PID - photoionization detector

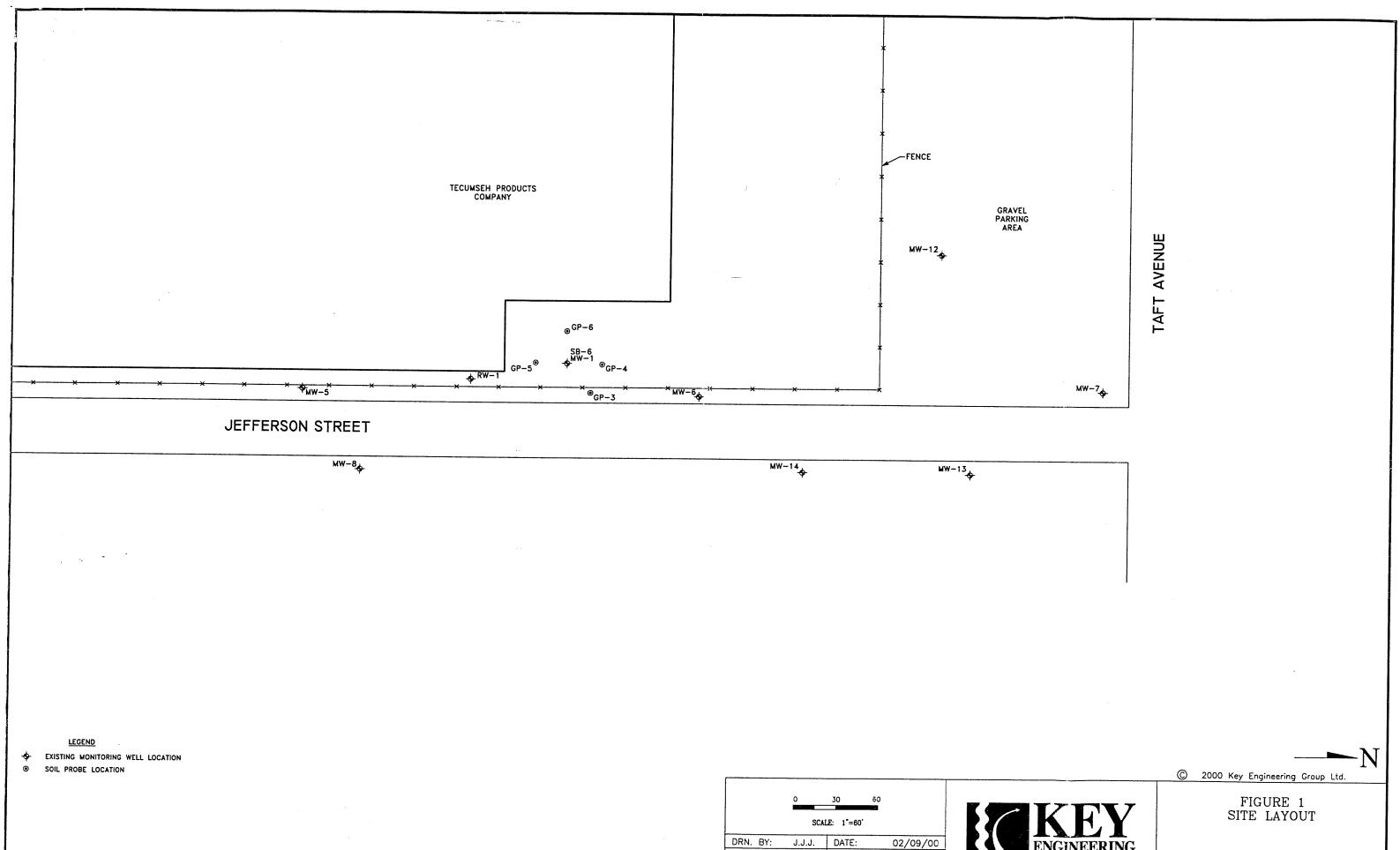
PRG - USEPA Region 9 industrial direct contact Preliminary Remediation Goal

SSL - USEPA Region 9 Soil Screening Level for the protection of groundwater (with dilution)

μg/kg - micrograms per kilogram

USEPA - United States Environmental Protection Agency

VOCs - volitale organic compounds



C.M.H. FILE NO.:

C.M.H. DWG. NO.:

G.L.J. SHEET NO.:

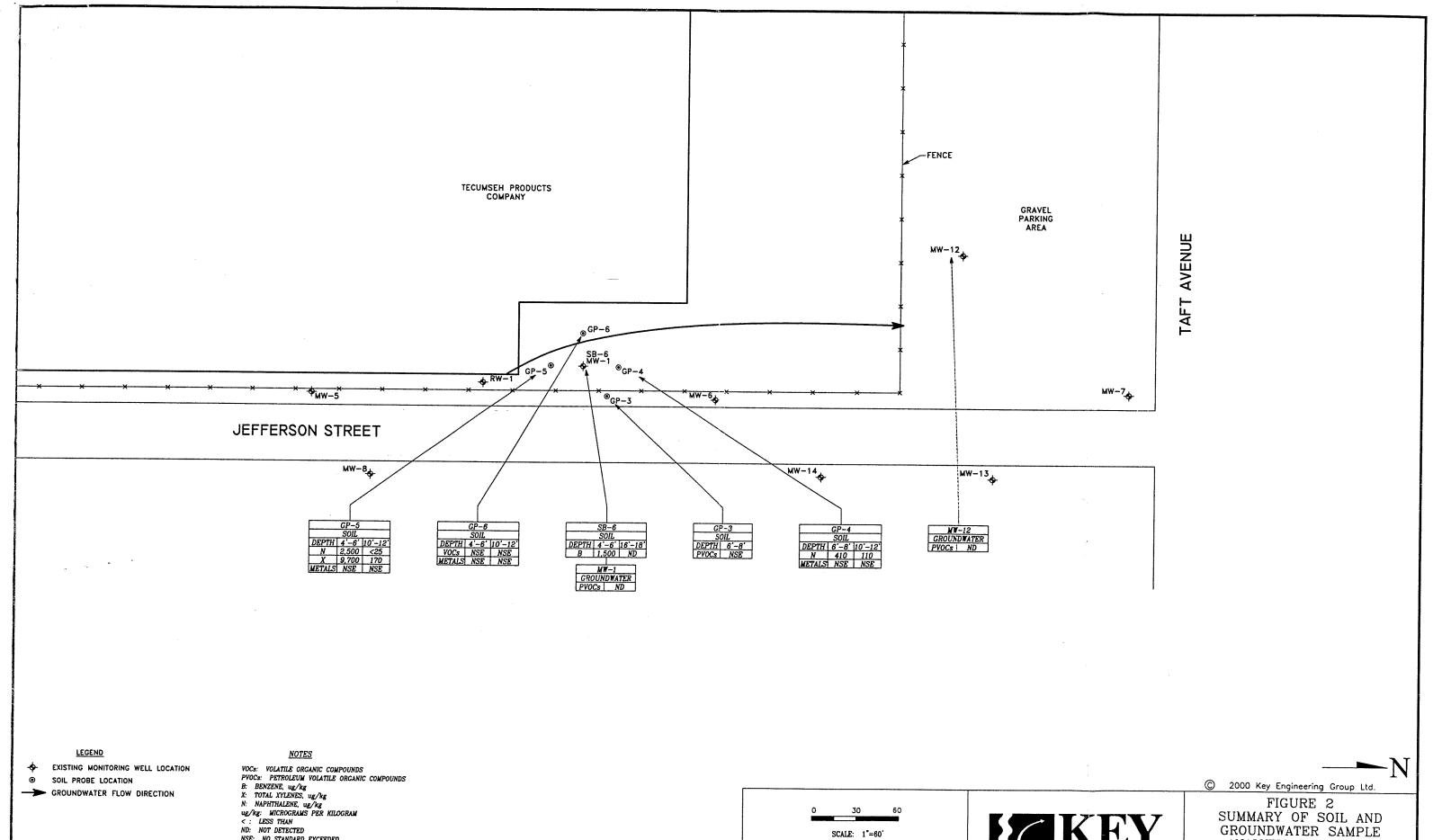
CHK. BY:

REV. BY:

0809004

08090042

EAST SECTION FILL AREA
TECUMSEH PRODUCTS COMPANY
1604 MICHIGAN AVENUE
NEW HOLSTEIN, WISCONSIN



---- GROUNDWATER FLOW DIRECTION

NSE: NO STANDARD EXCEEDED

SCALE: 1"=60'

DRN. BY:	J.J.J.	DATE:	02/09/00
DSN. BY:	C.M.H.	FILE NO.:	0809004
CHK. BY:	C.M.H.	DWG. NO.:	08090043
REV. BY:	G.L.J.	SHEET NO .:	2



FIGURE 2 SUMMARY OF SOIL AND GROUNDWATER SAMPLE ANALYTICAL RESULTS

EAST SECTION FILL AREA TECUMSEH PRODUCTS COMPANY 1604 MICHIGAN AVENUE NEW HOLSTEIN, WISCONSIN

# **ATTACHMENT 1**

State of Wisconsin

## SOIL BORING LOG INFORMATION

Department of Natural Resources Form 4400-122 Rev. 7-98 Route To: Watershed/Wastewater Waste Management Remediation/Redevelopment Other  $\square$ Page of Facility/Project Name License/Permit/Monitoring Number Boring Number Tecumseh - East Section GP-3 Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed Drilling Method Briohn Environmental Drilling Services, Inc. 9/29/1999 9/29/1999 Geoprobe WI Unique Well No. DNR Well ID No. Common Well Name Final Static Water Level Surface Elevation Borehole Diameter Feet MSL Feet MSL 2.0 inches Local Grid Origin ☐ (estimated: ☐ ) or Boring Location ☒ Local Grid Location Lat State Plane N, Ε S/C/N □и  $\Box$  E 1/4 of SE 1/4 of Section 10. T 17 N, R 20 E Long Feet  $\square$  S Feet W Facility ID County County Code Civil Town/City/ or Village Calumet New Holstein Sample Soil Properties Soil/Rock Description Recovered (in) એ Blow Counts Depth In Feet Compressive Length Att. And Geologic Origin For Graphic Log Well Diagram Strength Moisture **Plasticity** S PID/FID Each Major Unit Content USC Jiquid imit P 200 24 Grass Dark brown, silty CLAY, with some -1 gravel, moist 2 24 2 CL 18 .3 3 24 <1 Light brown, silty CLAY, with some sand and gravel, moist CL ٠6 4 24 3 \* Light brown, sandy clay, with some gravel, 12 moist to wet 8 CL 5 24 - wet 3 End of boring at 10 feet. \* Sample submitted for laboratory analysis. I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Firm KEY ENGINEERING GROUP, LTD Tel: (262) 375-4750 W66 N215 COMMERCE CT CEDARBURG WI Fax: (262) 375-9680

## SOIL BORING LOG INFORMATION

Tel: (262) 375-4750

Fax: (262) 375-9680

Form 4400-122 Rev. 7-98

Dan Briohn Environmental Contractors, Inc.  WI Unique Well No.  DNR Well ID No.  Common Well Name Final Static Water Level Feet MSL  Feet MSL  Local Grid Origin State Plane  N, E S/C/N  Lat	illing Method Geoprobe e Diameter 0 inches  B E Feet W
Facility/Project Name  Tecumseh - East Section Fill Area  Boring Drilled By: Name of crew chief (first, last) and Firm  Dan  Briohn Environmental Contractors, Inc.  WI Unique Well No.  DNR Well ID No.  DNR Well ID No.  Common Well Name  Final Static Water Level Feet MSL  Feet MSL  Local Grid Origin □ (estimated: □ ) or Boring Location  State Plane  N, E S/C/N  Lat □ □ □ Boring Number  GP-4  Date Drilling Started  Date Drilling Completed Dr  Date Drilling Completed Dr  Surface Elevation Feet MSL  Lat □ □ □ Local Grid Location □ N  Lat □ □ □ □ N	Geoprobe Diameter O inches
Boring Drilled By: Name of crew chief (first, last) and Firm  Dan  Briohn Environmental Contractors, Inc.  WI Unique Well No.  DNR Well ID No.  Common Well Name  Final Static Water Level Feet MSL  Feet MSL  Cocal Grid Origin  State Plane  N, E S/C/N  Date Drilling Completed  Driving Completed  Dri	Geoprobe e Diameter 0 inches
Dan Briohn Environmental Contractors, Inc.  WI Unique Well No.  DNR Well ID No.  Common Well Name Final Static Water Level Feet MSL  Feet MSL  State Plane  N, E S/C/N  State Plane  Surface Elevation Feet MSL  Lat  Local Grid Location  N, E S/C/N  Lat  Surface Elevation Feet MSL  Lat  Local Grid Location  N, E S/C/N  Lat  N	Geoprobe e Diameter 0 inches
WI Unique Well No. DNR Well ID No. Common Well Name Final Static Water Level Feet MSL Surface Elevation Borehol Feet MSL State Plane N, E S/C/N Lat Local Grid Location □ N, E S/C/N Lat N	e Diameter 0 inches
Feet MSL Feet MSL 2.  Local Grid Origin	0 inches
Local Grid Origin       ☐ (estimated: ☐ ) or Boring Location       ☐ Local Grid Location         State Plane       N, E S/C/N       Lat       ☐ N	□ Е
State Plane N, E S/C/N Lat N	
	Feet W
1/4 of SE 1/4 of Section 10, T 17 N, R 20 E Long Feet ☐ S  Facility ID   County   County Code   Civil Town/City/ or Village	
Calumet 8 New Holstein	
Sample Soil Properties	
왕(로) 및 당 Soil/Rock Description	<b>1</b>
And Geologic Origin For	nts
	RQD/ Comments
	% <u>2</u>
24	
Dark brown, silty CLAY, with some gravel, moist (fill)	
2 24 Gray, clayey SILT, with some sand and 51	
gravel, moist (fill)	
3 24 Rlack silty CLAV with some gravel and	
glass fragments, moist (fill)	
4   24     67 *     67 *	
5 24 Light brown, sandy CLAY, with some 20	
10       gravel, moist	
6   24     Light brown, silty SAND, with some   3*	
gravel, wet	
End of boring at 12 feet.	
* Sample submitted for laboratory analysis	
I hereby certify that the information on this form is true and correct to the best of my knowledge.	
Signature   Firm KEY ENGINEERING GROUP, LTD Tel: (2)	

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

W66 N215 COMMERCE CT CEDARBURG WI 53012

## SOIL BORING LOG INFORMATION

Department of Natural Resources Form 4400-122 Rev. 7-98 Route To: Watershed/Wastewater Waste Management Remediation/Redevelopment Other  $\square$ Page 1 of 1 Facility/Project Name License/Permit/Monitoring Number **Boring Number** Tecumseh - East Section Fill Area GP-5 Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed Drilling Method Briohn Environmental Contractors, Inc. 9/29/1999 9/29/1999 Geoprobe WI Unique Well No. DNR Well ID No. Common Well Name Final Static Water Level Surface Elevation Borehole Diameter Feet MSL Feet MSL 2.0 inches Local Grid Origin ☐ (estimated: ☐ ) or Boring Location ☒ Local Grid Location State Plane Lat N. Ε S/C/N  $\square$  N  $\Box$  E 1/4 of SE 1/4 of Section 10, T 17 N, R 20 E Long Feet S Feet  $\square$  W Facility ID County County Code Civil Town/City/ or Village Calumet 8 New Holstein Sample Soil Properties Soil/Rock Description ઝ Recovered (in) Depth In Feet Blow Counts Compressive Strength Length Att. And Geologic Origin For RQD/ Comments Number and Type Diagram PID/FID Moisture Plasticity SCS Graphic Each Major Unit Content Liquid Limit Well P 200 Log 24 Grass and Topsoil 24 Light brown, silty SAND, with some gravel, moist (fill) SM -2 2 24 2 Dark brown, silty CLAY, with some 18 gravel, moist, poorly graded sand seam --3 CL (fill) 3 24 140 \* Dark brown, silty CLAY, with some 18 gravel, moist (fill) -5 6 24 24 18 CL -8 5 24 24 . 9 Light brown, silty SAND, with some gravel, moist to wet - 10 6 24 4 \* SM -11 -12 End of boring at 12 feet. \* Sample submitted for laboratory analysis I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature KEY ENGINEERING GROUP, LTD Tel: (262) 375-4750 W66 N215 COMMERCE CT CEDARBURG WI 53012 Fax: (262) 375-9680

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

## SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			<u>R</u>		/astewater   Redevelopment	Waste Other		gement										
													Pa	ige 1	of	1		
	ty/Proje			A: T:11 A		License	/Permi	t/Monit	oring N	umbe	ſ	Borin	g Numi	er	-	57 Sec. 31 O'4 Annua 1944		
				tion Fill Area  f crew chief (first, last) a	nd Firm	Date Di	Date Drilling Started Date Drilling C				ling Co	GP-6 ng Completed   Drilling Method						
Da	n									uto Dini	inig Co	mpietet	•		Drining Method			
				al Contractors, Inc.	To			9/1999				9/29/1999				Geoprobe		
WIU	nique W	ell No	٠.	DNR Well ID No.	Common Well Name				eet MSL			orehole Diameter 2.0 inches						
	Grid O	rigin	☐ (e		ing Location 🛛	Local				Grid Lo			۷.0	inches				
State	Plane	-	_	•	E S/C/N	1	at		<u> </u>							□ Е		
Facili		of S	E 1	/4 of Section 10,	T 17 N, R 20 E	Lor County C						t 🗆 S	5		Feet U W			
1 40111	., 10			Calumet		8	oue	1	Hols	-	v mage							
Sai	nple				*					<u> </u>	T	Soil	Prop	erties				
	8 (i)	23	t	!	ock Description													
r e	Att.	onno	In Fe	į	ologic Origin For		S		_		Ssive	. و		5		nts		
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Eacl	h Major Unit		scs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments		
ZE	24	BI	۵				D	Grap Log	N Ö		S 25	ૐ ડે	Liquic Limit	Plastic Index	P 2	88		
1	24		F	Well graded grave			GW			<1								
			F-1	and gravel, moist	CLAY, with some	sand												
			Ė	g g , ,	()													
2	24 12		-2				CL			4								
	12		_3															
			Ę															
3	24		-4	DI 1 " OT 17	• •	_				182 *								
	18		E	Black, silty CLAY wood fragments, a						102								
			<u></u> −5	moist (fill)	are same and grave	-,												
			- -6				O.											
4	24 18		-				CL			32								
			7															
5	24		_8	Tinht hanna sile	CI AN					26								
	12			Light brown, silty gravel, moist	CLAY, With some					20								
			9 -	,														
			- -10				CT											
6	24 18		= 10	- wet			CL			4 *								
			- -11										1					
			-															
L			-12	End of boring at 12	) foot													
				* Sample submitted	d for laboratory an	alysis												
		. 41- : : :			·													
1 hereb		tnat th	ne infor	mation on this form is tru	153:											9 <del>4</del>		
Signall	ne v	~,		1/ -	Firm KEY	'ENGI	NEER	UNG (	GROI	JP, L	TD				Tel: (26	52) 375-4750		

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

W66 N215 COMMERCE CT CEDARBURG WI

53012

Fax: (262) 375-9680

(1) GENERAL INFORMATION	·	(2) FACIL	ITY NAME	Tecumseh - Ea	et Costion	
Well/Drillhole/Borehole   County			ell Owner (If I		St Section	
Location Calumet		_	•	•		
Calumet	NZI _	Present We		s Company		
14 c SF 14 co 10 m 17		Present we	in Owner			
1/4 of SE 1/4 of Sec. 10 ; T 17 (If Applicable)	. N; R20	Charles D.		· · · · · · · · · · · · · · · · · · ·		
· · · · · · · · · · · · · · · · · · ·		Street or Re				
Grid Location Gov't Lot	Grid Number		<u>fichigan Av</u>	renue		
		City, State,	-	,		
ft. U N. U S.,	ft.		olstein, WI			
Civil Town Name		Facility We	ell No. and/or N	Vame (If Applicat	ole)	WI Unique Well No.
		GP-3				
Street Address of Well		Reason For	Abandonmen	ţ		
1604 Michigan Avenue		Investig	gative Borin	ng		
City, Village		Date of Ab	andonment			
New Holstein		9/29/99	)			
WELL/DRILLHOLE/BOREHOLE INFORMATION						
(3) Original Well/Drillhole/Borehole Construction Con	onleted On	(4) Depth t	o Water (Feet)			
(Date) 9/29/99	·	1	Piping Remo		es 🗌 No	Not Applicable
(Date)		_	Removed?	_	es No	
☐ Monitoring Well   Construction	n Report Available?		Removed?	_	es No	
☐ Water Well		B	Left in Place?		es 🖾 No	
☐ Drillhole		If No. F	xplain No	ot Installed	C3 E3 110	
Borehole		1, -	p.u			***************************************
		Was Ca	sing Cut Off E	Below Surface?	☐ Yes	s 🗆 No
Construction Type:		1	-	Rise to Surface?	⊠ Ye	
Drilled Driven (Sandpoint)	Dug	1	-	ter 24 Hours?	=	
Other (Specify) Geoprobe	LJ Dug	1			∐ Yes	_
23 Other (Spectry)		Il Tes,	Was Hole Reto	oppea?	∐ Yes	s 📙 No
Formation Trans.	**	(5) Require	d Method of P	lacing Sealing Ma	aterial	
Formation Type:		Cor	nductor Pipe -	Gravity 🔲	Conductor P	Pipe - Pumped
Unconsolidated Formation	edrock	🗌 Du	mp Bailer	$\boxtimes$	Other (Expla	ain) Gravity
Total Well Depth (ft) 10.0 Casing Diam	eter (in.)	(6) Sealing	Materials	****	For moni	toring wells and
(From ground surface) Casing Deptl	• •		at Cement Grou	nt .		ng well boreholes only
		_	d-Cement (Co		шошоп	ig wen borenoies omy
Lower Drillhole Diameter (in.)			ncrete	nerete) Grout	D Ponto	nite Pellets
( )			y-Sand Slurry		. —	ilar Bentonite
Was Well Annular Space Grouted? Yes	☐ No ☐ Unknown		stonite-Sand Sl			nite-Cement Grout
If Yes, To What Depth?	Feet			•	L Benio	mie-Cemeni Groui
***************************************		ES CIII	pped Bentonite			
(7) Sealing Material Used		From (Ft.)	To (Ft.)		Mix Ra	atio or Mud Weight
			` ′			
3/8" Chipped Bentonite		Surface	10.0	0.25		
		Ourrace	10.0	0.23		· · · · · · · · · · · · · · · · · · ·
		<u> </u>				
(8) Comments						
(9) Name of Person or Firm Doing Sealing Work		(10)	F0	n 151 m / n = no-		
		(10)		R DNR OR COU		
Key Engineering Group, Ltd. Signature of Person Doing Work	D-4- 0:4	44.50	Received/Inspe			/County
Signature of reison Doing Work	Date Signed					
Jun light 15	10/21/99	Revie	wer/Inspector			Complying Work
Street of Route	Telephone Number					Noncomplying Work
W66 N215 Commerce Court	(262) 375-4750		v-up Necessary			
City, State, Zip Code		[ Lead				
Cedarburg, Wisconsin 53012						

(1) OFNEDAL DEODLATION			
(1) GENERAL INFORMATION Well/Drillhole/Borehole   County		(2) FACILITY NAME Tecumseh - East Section Fill Area Original Well Owner (If Known)	
Location Calumet			
Calumet	⊠ E	Tecumseh Products Company Present Well Owner	
1/4 of <u>SE</u> 1/4 of Sec. <u>10</u> ; T. <u>17</u> N; R. <u>20</u>	_ 🖺 w	Trestal Well Owner	
(If Applicable)		Street or Route	
Gov't Lot Grid N	umber	1604 Michigan Avenue	
Grid Location		City, State, Zip Code	
ft. \[ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	□ w.	New Holstein, WI	
Civil Town Name		Facility Well No. and/or Name (If Applicable) WI Unique Well No	
	· · · · · · · · · · · · · · · · · · ·	GP-4	
Street Address of Well		Reason For Abandonment	
1604 Michigan Avenue City, Village		Investigative Boring	
		Date of Abandonment	
New Holstein WELL/DRILLHOLE/BOREHOLE INFORMATION		9/29/99	l y was
		(A) Doroth to Water (Fore)	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) 9/29/99		(4) Depth to Water (Feet)  Pump & Piping Removed?  Yes No Not Applical	
(Date) <u>9/29/99</u>		Pump & Piping Removed? Yes No Not Applical Liner(s) Removed? Yes No Not Applical	
☐ Monitoring Well   Construction Report Avai	lable?	Screen Removed?	
☐ Water Well ☐ Yes ☐ N		Casing Left in Place? Yes No	/IC
☐ Drillhole		If No, Explain Not Installed	
Borehole			
		Was Casing Cut Off Below Surface? Yes No	
Construction Type:		Did Sealing Material Rise to Surface? Yes No	
Drilled Driven (Sandpoint) D	ıg	Did Material Settle After 24 Hours? Yes No	
Other (Specify) Geoprobe		If Yes, Was Hole Retopped? Yes No	
		(5) Required Method of Placing Sealing Material	
Formation Type:		Conductor Pipe - Gravity Conductor Pipe - Pumped	
☐ Unconsolidated Formation ☐ Bedrock		Dump Bailer Other (Explain) Gravity	
Total Well Depth (ft) 12.0 Casing Diameter (in.)		(6) Sealing Materials For monitoring wells and	
(From ground surface) Casing Depth (ft.)		Neat Cement Grout monitoring well boreholes onl	v
		Sand-Cement (Concrete) Grout	,
Lower Drillhole Diameter (in.)		☐ Concrete ☐ Bentonite Pellets	
	٦.	☐ Clay-Sand Slurry ☐ Granular Bentonite	
Was Well Annular Space Grouted?	Unknown	Demonic-band Starry Demonic-Centent Grout	
If Yes, To What Depth?	Feet	☐ Chipped Bentonite	
(7) Sealing Material Used		From (Ft.) To (Ft.) Mix Ratio or Mud Weight	==
		From (Ft.) To (Ft.) Mix Ratio or Mud Weight	
3/8" Chipped Bentonite		Surface 12.0 0.25	
		0.25	
(8) Comments			
(6) Confinents			
(9) Name of Person or Firm Doing Sealing Work		(10) FOR DNR OR COUNTY USE ONLY	
Key Engineering Group, Ltd.		Date Received/Inspected District/County	
Signature of Person Doing Work Date Signed	,		
Butylus 15 10/21/		Reviewer/Inspector Complying Work	T.
Street or Route Telephone Nu		Noncomplying Work	1
W66 N215 Commerce Court (262) 3	75-4750	Follow-up Necessary	
City, State, Zip Code			
Cedarburg Wisconsin 53012	1		

# **WELL/DRILLHOLE/BOREHOLE ABANDONMENT**Form 3300-5B Rev. 4-97

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION	(2) FACILITY MANTE TO 1 D 2 1 Fill
Well/Drillhole/Borehole County	(2) FACILITY NAME Tecumseh - East Section Fill Area Original Well Owner (If Known)
Location Calumet	· ·
	Tecumseh Products Company Present Well Owner
SE 10 - 17 20 E	Present Well Owner
1/4 of <u>SE</u> 1/4 of Sec. <u>10</u> ; T. <u>17</u> N; R. <u>20</u> W	
• • •	Street or Route
Grid Location Grid Number	1604 Michigan Avenue
	City, State, Zip Code
ft. N. S.,ft. E. W.	New Holstein, WI
Civil Town Name	Facility Well No. and/or Name (If Applicable) WI Unique Well No.
	GP-5
Street Address of Well	Reason For Abandonment
1604 Michigan Avenue	Investigative Boring
City, Village	Date of Abandonment
New Holstein	9/29/99
WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Original Well/Drillhole/Borehole Construction Completed On	(4) Depth to Water (Feet)
0/00/00	
(Date) 9/29/99	Pump & Piping Removed? Yes No Not Applicable
Monitoring Well Construction Report Available?	Liner(s) Removed? Yes No Not Applicable
	Screen Removed?
	Casing Left in Place? Yes No
	If No, Explain Not Installed
⊠ Borehole	
	Was Casing Cut Off Below Surface? Yes No
Construction Type:	Did Sealing Material Rise to Surface? Yes No
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug	Did Material Settle After 24 Hours? Yes No
Other (Specify) Geoprobe	If Yes, Was Hole Retopped? Yes No
	(5) Required Method of Placing Sealing Material
Formation Type:	) <del></del>
☐ Unconsolidated Formation ☐ Bedrock	
Total Well Depth (ft) 12.0 Casing Diameter (in.)	
Total Well Depth (ft) 12.0 Casing Diameter (in.) Crom ground surface) Casing Depth (ft.)	(6) Sealing Materials For monitoring wells and
(110th ground surface) Casing Deput (it.)	Neat Cement Grout monitoring well boreholes only
Laurar Drillhala Diameter (in )	Sand-Cement (Concrete) Grout
Lower Drillhole Diameter (in.)	Concrete Bentonite Pellets
Was William 1 a a a see The The The	Clay-Sand Slurry Granular Bentonite
Was Well Annular Space Grouted? Yes No Unknown	☐ Bentonite-Sand Slurry ☐ Bentonite-Cement Grout
If Yes, To What Depth? Feet	Chipped Bentonite
(7) Scaling Material IV. 1	
Sealing Material Used	From (Ft.) To (Ft.) Mix Ratio or Mud Weight
2/01/ Chiana 1 Danta ita	
3/8" Chipped Bentonite	Surface   12.0   0.25
(8) Comments	
(9) Name of Person or Firm Doing Sealing Work	(10) FOR DNR OR COUNTY USE ONLY
Key Engineering Group, Ltd.	Date Received/Inspected District/County
Signature of Person Doing Work Date Signed	
Bustishin K 10/2:199	Reviewer/Inspector Complying Work
Street or Roule Telephone Number	Noncomplying Work
W66 N215 Commerce Court (262) 375-4750	Follow-up Necessary
City, State, Zip Code	
Cedarburg Wisconsin 53012	

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable.

(1) GENERAL INFORMATION		(2) FACIL	ITY NAME	Tecumseh - Ea	ast Section Fill Area
Well/Drillhole/Borehole	County	Original W	ell Owner (If		
Location	Calumet	Tecum	seh Produc	ts Company	
	⊠E	Present We			
1/4 of SE 1/4 of Sec 1	10 ; T. 17 N; R. 20 W				
(If Applicable)	, , , , , , , , , , , , , , , , , , , ,	Street or R	oute	· · · · · · · · · · · · · · · · · · ·	
Gov't Lot	Grid Number	1			
Grid Location	Grid Number	City, State	Michigan Av	venue	
	. — — —		-		
ft. N. S.,	ft. U E. U W.	New H	olstein, WI		
Civil Town Name			ell No. and/or	Name (If Applica	ble) WI Unique Well No.
		GP-6			
Street Address of Well		Reason For	Abandonmen	t	
1604 Michigan Avenue		Investi	gative Borii	ng	
City, Village			andonment		
New Holstein		9/29/99	)		
WELL/DRILLHOLE/BOREHOLE IN	FORMATION	1 3,23,33			
(3) Original Well/Drillhole/Borehole		(4) Depth 1	to Water (Feet)	\	
0/00/00	Construction Completed On				v. 🗆 v. 🗖 v
(Date) <u>9/29/99</u>			& Piping Remo		Yes No Not Applicable
П	1		) Removed?		Yes 🔲 No 🔯 Not Applicable
☐ Monitoring Well	Construction Report Available?	1	Removed?		Yes 🔲 No 🖾 Not Applicable
☐ Water Well	☐ Yes ☐ No	Casing	Left in Place?		Yes 🛛 No
☐ Drillhole		If No, I	Explain No.	ot Installed	
Borehole					
		Was Ca	sing Cut Off	Below Surface?	☐ Yes ☐ No
Construction Type:		Did Sea	aling Material	Rise to Surface?	
☐ Drilled ☐ Dri	iven (Sandpoint) Dug	I	_	fter 24 Hours?	Yes No
Other (Specify) Geoprob		1	Was Hole Ret		Yes No
Formation Type:				Placing Sealing M	aterial
Unconsolidated Formation			nductor Pipe -		Conductor Pipe - Pumped
Unconsolidated Formation	☐ Bedrock	Du	mp Bailer	$\boxtimes$	Other (Explain) Gravity
Total Well Depth (ft) 12.0	Casing Diameter (in.)	(6) Sealing	Materials		For monitoring wells and
(From ground surface)	Casing Depth (ft.)		at Cement Gro	nt	monitoring well boreholes only
,		1 —	nd-Cement (Co		mointoring wen boreholes only
Lower Drillhole Diameter (in.)		I —		oncrete) Grout	
Zower Zimioto Zimioto (m.)			ncrete		Bentonite Pellets
Was Well Annular Space Grouted	1? Yes No Unknown		y-Sand Slurry		Granular Bentonite
If Yes, To What Depth?			ntonite-Sand S	•	☐ Bentonite-Cement Grout
If ites, it what Depth?	Feet	⊠ Chi	ipped Bentonit	e	
(7)					
Sealing	Material Used	From (Ft.)	To (Ft.)		Mix Ratio or Mud Weight
3/8" Chipped Bentonite		Surface	12.0	0.25	
				0.20	
(8) C		•			
(8) Comments					
(9) Name of Person or Firm Doing Se	ealing Work	(10)	FC.	R DNR OR COT	INTY USE ONLY
Key Engineering Group, Ltd.	Č		Received/Inspe	and state of the second control of the second secon	District/County
Signature of Person Doing Work	Date Signed		.cocrrewinspe		District County
		B	a		
Street to Pout	10/21/99	Kevie	wer/Inspector		Complying Work
Street or Route	Telephone Number				Noncomplying Work
W66 N215 Commerce Court	(262) 375-4750	Follov	v-up Necessary	/	
City, State, Zip Code					
Cedarburg Wisconsin 53012					



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Date: October 12, 1999

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Project: Tecumseh East

Enclosed are the results from 6 soil samples and 1 liquid sample received at Great Lakes Analytical on September 30, 1999. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
B909542-01	Soil: GP-4 6-8	9/29/99	RCRA Metals VOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909542-02	Soil: GP-4 10-12	9/29/99	RCRA Metals VOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909542-03	Soil: GP-5 4-6	9/29/99	RCRA Metals Percent Solids, EPA 7.3.3.1.5 VOC, EPA 5030/8021
B909542-04	Soil: GP-5 10-12	9/29/99	RCRA Metals VOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909542-05	Soil: GP-6 4-6	9/29/99	RCRA Metals VOC, EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909542-06	Soil: GP-6 10-12	9/29/99	RCRA Metals Percent Solids, EPA 7.3.3.1.5 VOC, EPA 5030/8021
B909542-07	Liquid: MeOH Blank	9/29/99	VOC, EPA 5030/8021

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Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

**GREAT LAKES ANALYTICAL** 

A. IL /L-



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Tecumseh East Soil: GP-4 6-8

Sampled: Received: Sep 29, 1999 Sep 30, 1999

Lab Number:

B909542-01

Analyzed: Reported:

Oct 6, 1999 Oct 12, 1999

## **RCRA METALS**

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight		Sample Results mg/kg, Dry Weight
Arsenic	3050B/6010B	3.1		N.D.
Barium	3050B/6010B	31	***************************************	64
Cadmium	3050B/6010B	0.63		N.D.
Chromium	3050B/6010B	0.63	***************************************	14
Lead	3050B/6010B	1.2	***************************************	13
Mercury	7471	0.050	***************************************	0.083
Selenium	3050B/6010B	0.63	***************************************	1.0
Silver	3050B/6010B	3.1		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Tecumseh East Soil: GP-4 10-12 Sampled: Received: Sep 29, 1999 Sep 30, 1999

Lab Number:

B909542-02

Analyzed: Reported:

Oct 6, 1999 Oct 12, 1999

## **RCRA METALS**

Analyte	Detection Limit EPA Method mg/kg, Dry Weight			Sample Results mg/kg, Dry Weight
		<b>.</b>	9	
Arsenic	3050B/6010B	2.8	•••••	N.D.
Barium	3050B/6010B	28		N.D.
Cadmium	3050B/6010B	0.57	***************************************	N.D.
Chromium	3050B/6010B	0.57		3.9
Lead	3050B/6010B	1.1		N.D.
Mercury	7471	0.045		N.D.
Selenium	3050B/6010B	0.57	••••••	0.63
Silver	3050B/6010B	2.8		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart Client Project ID: Sample Descript: Tecumseh East Soil: GP-5 4-6

GP-5 4-6

Sampled: Sep 3 Received: Sep 3

Sep 29, 1999 Sep 30, 1999

Lab Number:

B909542-03

Analyzed: Reported: Oct 6, 1999 Oct 12, 1999

## **RCRA METALS**

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight		Sample Results mg/kg, Dry Weight
Arsenic	3050B/6010B	3.0		N.D.
Barium	3050B/6010B	30		71
Cadmium	3050B/6010B	0.60		N.D.
Chromium	3050B/6010B	0.60	•••••	13
Lead	3050B/6010B	1.2		35
Mercury	7471	0.048	•••••	0.13
Selenium	3050B/6010B	0.60		1.6
Silver	3050B/6010B	3.0		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;

USACE; Wisconsin DNR-999917160



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Sep 29, 1999 Sep 30, 1999 Sampled: Key Environmental Services, Inc. Client Project ID: Tecumseh East W66 N215 Commerce Ct Sample Descript: Soil: GP-5 10-12 Received: Cedarburg, WI 53012 Attention: Curt Hoffart Lab Number: B909542-04 Analyzed: Oct 6, 1999 Reported: Oct 12, 1999

## **RCRA METALS**

Analyte	EPA Method	Detection Limit mg/kg, Dry Weight		Sample Results mg/kg, Dry Weight
Arsenic	3050B/6010B	2.8	•••••	N.D.
Barium	3050B/6010B	28		N.D.
Cadmium	3050B/6010B	0.56		N.D.
Chromium	3050B/6010B	0.56		4.8
Lead	3050B/6010B	1.1	***************************************	N.D.
Mercury	7471	0.045	***************************************	N.D.
Selenium	3050B/6010B	0.56		N.D.
Silver	3050B/6010B	2.8		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012

Attention: Curt Hoffart

Client Project ID: Tecumseh East Sample Descript:

Lab Number:

Soil: GP-6 4-6

B909542-05

Sampled: Received:

Sep 29, 1999

Sep 30, 1999

Analyzed: **Revised Report:** 

Oct 6, 1999 Feb 4, 2000

## **RCRA METALS**

Analyte	EPA Method	Detection Limit PA Method mg/kg, Dry Weight		
Arsenic	3050B/6010B	3.0		N.D.
Barium	3050B/6010B	30		43
Cadmium	3050B/6010B	0.61	•••••	N.D.
Chromium	3050B/6010B	0.61		12
Lead	3050B/6010B	1.2	•••••	14
Mercury	7471	0.049	•••••	N.D.
Selenium	3050B/6010B	0.61	•••••	1.8
Silver	3050B/6010B	3.0		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 

Kevin W Keeley **Laboratory Director** 

B909542-01.KEY <5>



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Sep 29, 1999 Sep 30, 1999 Sampled: Client Project ID: Tecumseh East Key Environmental Services, Inc. W66 N215 Commerce Ct Sample Descript: Soil: GP-6 10-12 Received: Cedarburg, WI 53012 Attention: Curt Hoffart B909542-06 Analyzed: Oct 6, 1999 Lab Number: Reported: Oct 12, 1999

## **RCRA METALS**

Analyte	EPA Method	Detection Lin mg/kg, Dry We	·	Sample Results mg/kg, Dry Weight
Arsenic	3050B/6010B	2.8		N.D.
Barium	3050B/6010B	28		35
Cadmium	3050B/6010B	0.56	***************************************	N.D.
Chromium	3050B/6010B	0.56		8.8
Lead	3050B/6010B	1.1		6.7
Mercury	7471	0.044		N.D.
Selenium	3050B/6010B	0.56		N.D.
Silver	3050B/6010B	2.8		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis for:

First Sample #:

Tecumseh East Soil

Percent Solids, EPA 7.3.3.1.5 B909542-01 Sampled: Received:

Sep 29, 1999 Sep 30, 1999

Analyzed: C Reported: O

Oct 6-7, 1999 Oct 12, 1999

## LABORATORY ANALYSIS FOR:

Percent Solids, EPA 7.3.3.1.5

	ample umber	Sample Description	Detection Limit %	Sample Result %
B90	9542-01	GP-4 6-8	0.10	80
B90	9542-02	GP-4 10-12	0.10	88
B90	9542-03	GP-5 4-6	0.10	84
B90	9542-04	GP-5 10-12	0.10	89
B90	9542-05	GP-6 4-6	0.10	82
B90	9542-06	GP-6 10-12	0.10	90

**GREAT LAKES ANALYTICAL** 



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Sampled:

Revised Reported:

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012

Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-4 6-8

EPA 5030/8021 B909542-01 An

Received: Sep 30, 1999

Analyzed: Oct 8, 1999

Sep 29, 1999

Oct 21, 1999

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	8 <i>1</i>	ample lesults ug/kg / Weight
Benzene	2.6	8.1		25		N.D.
Bromobenzene	6.9	22		25		N.D.
Bromodichloromethane	5.1	16		25		N.D.
n-Butylbenzene	9.6	31		25		1,300
sec-Butylbenzene	6.0	19		25		
tert-Butylbenzene	6.1	19		25		620
Carbon tetrachloride	3.0	9.4		25		N.D.
Chlorobenzene	6.2	20		25		N.D.
Chloroethane	13	40		25		N.D.
Chloroform	3.8	12	***********	25		N.D.
Chloromethane	8.1	26		25		N.D.
2-Chlorotoluene	6.7	21		25		N.D.
4-Chlorotoluene	9.8	31		25		N.D.
Dibromochloromethane	6.2	20		25		N.D.
1,2-Dibromo-3-chloropropane	11	34		25		N.D.
1,2-Dibromoethane	8.4	27		25		N.D.
1,2-Dichlorobenzene	5.4	17		25		N.D.
1,3-Dichlorobenzene	7.1	23		25		N.D.
1,4-Dichlorobenzene	7.6	24		25		N.D.
Dichlorodifluoromethane	11	35		25		N.D.
1,1-Dichloroethane	7.2	23		25		N.D.
1,2-Dichloroethane	2.3	7.5		25		N.D.
1,1-Dichloroethene	5.7	18		25		N.D.
cis-1,2-Dichloroethene	6.0	19		25		N.D.
trans-1,2-Dichloroethene	5.4	17		25		N.D.
1,2-Dichloropropane	3.6	12		25		N.D.
1,3-Dichloropropane	6.1	19		25		N.D.
2,2-Dichloropropane	9.3	30		25		53
Di-Isopropyl-Ether	5.3	17		25		N.D.
Ethyl Benzene	3.5	11		25		210



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012

Attention: Curt Hoffart

Client Project ID: Sample Descript:

Tecumseh East Soil: GP-4 6-8 Analysis Method: EPA 5030/8021

Sampled: Received:

Sep 29, 1999 Sep 30, 1999

Lab Number:

B909542-01 Analyzed: Oct 8, 1999

Revised Reported:

Oct 21, 1999

## **WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)**

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	Rep L μς	DNR porting imit g/kg Weight	R P	ample esults rg/kg Weight
Hexachlorobutadiene	16	51		25		N.D.
Isopropylbenzene	3.5	11		25	•••••	430
p-Isopropyltoluene	9.8	31	***************************************	25		N.D.
Methylene chloride	34	110		100		260B
Methyl-tert-Butyl-Ether	6.6	21		25		N.D.
Napthalene	7.4	24		25		410
n-Propylbenzene	8.4	27		25		360
1,1,2,2-Tetrachloroethane	8.9	28		25		N.D.
Tetrachloroethene	5.2	16		25	•••••	N.D.
Toluene	3.4	11		25		200
1,2,3-Trichlorobenzene	8.5	27		25		N.D.
1,2,4-Trichlorobenzene	7.3	23		25	•••••	N.D.
1,1,1-Trichloroethane	5.6	18		25		N.D.
1,1,2-Trichloroethane	4.6	15		25	•••••	N.D.
Trichloroethene	6.2	20		25		N.D.
Trichlorofluoromethane	8.1	26		25		N.D.
1,2,4-Trimethylbenzene	5.0	16		25	•••••	750
1,3,5-Trimethylbenzene	6.2	20		25		450
Vinyl chloride	8.2	26		25	•••••	N.D.
Total Xylenes	6.6	21	•••••	25		750

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director Please Note:

B= The blank associated with this sample contained 170 ppb of Methylene Chloride.

Page 2 of 2

B909542-01.KEY <9>



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-4 10-12 EPA 5030/8021 B909542-02 Sampled: S Received: S

Sep 29, 1999 Sep 30, 1999

Analyzed: Reported:

Oct 8, 1999 Oct 12, 1999

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg ⊮et Weight	F	Sample Results ug/kg / Weight
Benzene	2.6	8.1		25		N.D.
Bromobenzene	6.9	22		25		N.D.
Bromodichloromethane	5.1	16		25		N.D.
n-Butylbenzene	9.6	31		25		120
sec-Butylbenzene	6.0	19		25		N.D.
tert-Butylbenzene	6.1	19	***************************************	25		N.D.
Carbon tetrachloride	3.0	9.4		25		N.D.
Chlorobenzene	6.2	20		25		N.D.
Chloroethane	13	40				N.D.
Chloroform	3.8	12				N.D.
		26				N.D.
Chloromethane	8.1	26 21	************			N.D.
2-Chlorotoluene	6.7					N.D.
4-Chlorotoluene	9.8	31		~~	•••••	N.D.
Dibromochloromethane	6.2	20	••••••	~~	•••••	
1,2-Dibromo-3-chloropropane	11	34	••••••	~~		N.D.
1,2-Dibromoethane	8.4	27				N.D.
1,2-Dichlorobenzene	5.4	17		- G	•••••	N.D.
1,3-Dichlorobenzene	7.1	23	•••••			N.D.
1,4-Dichlorobenzene	7.6	24				N.D.
Dichlorodifluoromethane	11	35	************			N.D.
1,1-Dichloroethane	7.2	23				N.D.
1,2-Dichloroethane	2.3	7.5		25		N.D.
1,1-Dichloroethene	5.7	18		25		N.D.
cis-1,2-Dichloroethene	6.0	19		25		N.D.
trans-1,2-Dichloroethene	5.4	17		25		N.D.
1,2-Dichloropropane	3.6	12				N.D.
1,3-Dichloropropane	6.1	19				N.D.
2,2-Dichloropropane	9.3	30				N.D.
Di-Isopropyl-Ether	5.3	17				N.D.
Ethyl Benzene	3.5	11				N.D.



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-4 10-12 EPA 5030/8021 B909542-02 Sampled: Sep Received: Sep

Sep 29, 1999 Sep 30, 1999

Analyzed: Reported:

Oct 8, 1999 Oct 12, 1999

## WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit μg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	F	Sample Results µg/kg y Weight
Hexachlorobutadiene	16	51	 25		N.D.
Isopropylbenzene	3.5	11	 25		N.D.
p-Isopropyltoluene	9.8	31	 25		N.D.
Methylene chloride	34	110	 100		230B
Methyl-tert-Butyl-Ether	6.6	21	 25		N.D.
Napthalene	7.4	24	 25		110
n-Propylbenzene	8.4	27	 25		N.D.
1,1,2,2-Tetrachloroethane	8.9	28	 25		N.D.
Tetrachloroethene	5.2	16	 25		N.D.
Toluene	3.4	11	 25		N.D.
1,2,3-Trichlorobenzene	8.5	27	 25		
1,2,4-Trichlorobenzene	7.3	23	 25		
1,1,1-Trichloroethane	5.6	18	 25		N.D.
1,1,2-Trichloroethane	4.6	15	 25		N.D.
Trichloroethene	6.2	20	 25		N.D.
Trichlorofluoromethane	8.1	26	 25		N.D.
1,2,4-Trimethylbenzene	5.0	16	 25		
1,3,5-Trimethylbenzene	6.2	20	 25		
Vinyl chloride	8.2	26	 25		N.D.
Total Xylenes	6.6	21	 25		N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director Please Note

B= The blank associated with this sample contained 170 ppb of Methylene Chloride.

Page 2 of 2



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012

Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-5 4-6

EPA 5030/8021 B909542-03 Sampled: Sep 29, 1999 Received: Sep 30, 1999

Analyzed: ORevised Reported: OR

Oct 8, 1999 Oct 21, 1999

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	i	Sample Results µg/kg y Weight
Benzene	2.6	8.1	***********	25		N.D.
Bromobenzene	6.9	22	***********	25	***************************************	N.D.
Bromodichloromethane	5.1	16		25		N.D.
n-Butylbenzene	9.6	31		25		2,200
sec-Butylbenzene	6.0	19		25		1,700
tert-Butylbenzene	6.1	19		25		
Carbon tetrachloride	3.0	9.4		25		N.D.
Chlorobenzene	6.2	20		25		N.D.
Chloroethane	13	40	************	25		N.D.
Chloroform	3.8	12		25		N.D.
Chloromethane	8.1	26		25		N.D.
2-Chlorotoluene	6.7	21		25		N.D.
4-Chlorotoluene	9.8	31		25		N.D.
Dibromochloromethane	6.2	20		25		N.D.
1,2-Dibromo-3-chloropropane	11	34		25		N.D.
1,2-Dibromoethane	8.4	27				N.D.
1,2-Dichlorobenzene	5.4	17				360
1,3-Dichlorobenzene	7.1	23	***********			N.D.
1,4-Dichlorobenzene	7.6	24				N.D.
Dichlorodifluoromethane	11	35				N.D.
1,1-Dichloroethane	7.2	23				N.D.
1,2-Dichloroethane	2.3	7.5				N.D.
1,1-Dichloroethene	5.7	18				N.D.
cis-1,2-Dichloroethene	6.0	19	***************************************			N.D.
trans-1,2-Dichloroethene	5.4	17				N.D.
1,2-Dichloropropane	3.6	12				N.D.
1,3-Dichloropropane	6.1	19			***************************************	N.D.
2,2-Dichloropropane	9.3	30	*************			N.D.
Di-Isopropyl-Ether	5.3	17				N.D.
Ethyl Benzene	3.5	11				2,200



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct

Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript:

Lab Number:

Tecumseh East Soil: GP-5 4-6

Analysis Method: EPA 5030/8021 B909542-03

Sampled:

Sep 29, 1999 Sep 30, 1999

Received:

Oct 8, 1999

Analyzed: Revised Reported:

Oct 21, 1999

## **WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)**

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	F	Sample Results ug/kg / Weight
Hexachlorobutadiene	16	51		25	***************************************	N.D.
Isopropylbenzene	3.5	11		25		2,200
p-Isopropyltoluene	9.8	31		25		N.D.
Methylene chloride	34	110		100		140B
Methyl-tert-Butyl-Ether	6.6	21		25		N.D.
Napthalene	7.4	24		25		2,500
n-Propylbenzene	8.4	27		25		1,200
1,1,2,2-Tetrachloroethane	8.9	28	•••••	25	•••••	N.D.
Tetrachloroethene	5.2	16		25		N.D.
Toluene	3.4	11		25		250
1,2,3-Trichlorobenzene	8.5	27		25		N.D.
1,2,4-Trichlorobenzene	7.3	23		25		N.D.
1,1,1-Trichloroethane	5.6	18		25		N.D.
1,1,2-Trichloroethane	4.6	15		25		N.D.
Trichloroethene	6.2	20		25		N.D.
Trichlorofluoromethane	8.1	26		25		N.D.
1,2,4-Trimethylbenzene	5.0	16		25		2,000
1,3,5-Trimethylbenzene	6.2	20		25		1,200
Vinyl chloride	8.2	26		25		N.D.
Total Xylenes	6.6	21		25		9,700

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley **Laboratory Director**  Please Note:

B= The blank associated with this sample contained 170 ppb of Methylene Chloride.

Page 2 of 2

B909542-01.KEY < 13>



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-5 10-12 EPA 5030/8021 B909542-04 Sampled: Received:

Sep 29, 1999 Sep 30, 1999

Analyzed: Oc Reported: Oc

Oct 6, 1999 Oct 12, 1999

Analyte	Method Detection Limit μg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	Re: μg	mple sults //kg //eight
Benzene	2.6	8.1		25	N	N.D.
Bromobenzene	6.9	22		25		٧.D.
Bromodichloromethane	5.1	16	.,	25		N.D.
n-Butylbenzene	9.6	31		25	N	N.D.
sec-Butylbenzene	6.0	19		25	N	٧.D.
tert-Butylbenzene	6.1	19		25		٧.D.
Carbon tetrachloride	3.0	9.4		25	N	N.D.
Chlorobenzene	6.2	20		25	N	٧.D.
Chloroethane	13	40		25		٧.D.
Chloroform	3.8	12		25	N	۷.D.
Chloromethane	8.1	26		25		٧.D.
2-Chlorotoluene	6.7	21		25		N.D.
4-Chlorotoluene	9.8	31		25		۱.D.
Dibromochloromethane	6.2	20		25		N.D.
1,2-Dibromo-3-chloropropane	11	34		25	N	N.D.
1,2-Dibromoethane	8.4	27		25		N.D.
1,2-Dichlorobenzene	5.4	17		25		۷.D.
1,3-Dichlorobenzene	7.1	23		25	N	۱.D.
1,4-Dichlorobenzene	7.6	24		25	N	۱.D.
Dichlorodifluoromethane	11	35		25	N	٧.D.
1,1-Dichloroethane	7.2	23		25	N	N.D.
1,2-Dichloroethane	2.3	7.5		25		٧.D.
1,1-Dichloroethene	5.7	18	***********	25	N	1.D.
cis-1,2-Dichloroethene	6.0	19		25		1.D.
trans-1,2-Dichloroethene	5.4	17			N	I.D.
1,2-Dichloropropane	3.6	12				1.D.
1,3-Dichloropropane	6.1	19	**********	<del></del>		J.D.
2,2-Dichloropropane	9.3	30			N	1.D.
Di-Isopropyl-Ether	5.3	17			N	1.D.
Ethyl Benzene	3.5	11		25	3	14



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012

Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-5 10-12 EPA 5030/8021

B909542-04

Sampled: Sep 29, 1999 Received: Sep 30, 1999

Analyzed:

Oct 6, 1999 Reported: Oct 12, 1999

## WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit μg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	F	Sample Results µg/kg ⁄ Weight
Hexachlorobutadiene	16	51		25		N.D.
Isopropylbenzene	3.5	11		25		N.D.
p-Isopropyltoluene	9.8	31		25		N.D.
Methylene chloride	34	110		100		240B
Methyl-tert-Butyl-Ether	6.6	21		25		
Napthalene	7.4	24		25		N.D.
n-Propylbenzene	8.4	27				
1,1,2,2-Tetrachloroethane	8.9	28				
Tetrachloroethene	5.2	16				
Toluene	3.4	11				N.D.
1,2,3-Trichlorobenzene	8.5	27				N.D.
1,2,4-Trichlorobenzene	7.3	23		0		
1,1,1-Trichloroethane	5.6	18	•••••			N.D.
1,1,2-Trichloroethane	4.6	15				N.D.
Trichloroethene	6.2	20				N.D.
Trichlorofluoromethane	8.1	26		20		
1,2,4-Trimethylbenzene	5.0	16				
1,3,5-Trimethylbenzene	6.2	20			•••••	
Vinyl chloride	8.2	26	•••••	20		N.D.
Total Xylenes	6.6	21	•••••	25		170

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director Please Note:

B= The blank associated with this sample contained 170 ppb of Methylene Chloride.

Page 2 of 2



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-6 4-6 EPA 5030/8021 B909542-05 Sampled: Sep 29, 1999 Received: Sep 30, 1999

Analyzed: Oct 8, 1999 Reported: Oct 12, 1999

Analyte	Method Detection Limit μg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	F	Sample Results µg/kg ⁄ Weight
Benzene	2.6	8.1		25		N.D.
Bromobenzene	6.9	22		25		N.D.
Bromodichloromethane	5.1	16		25		N.D.
n-Butylbenzene	9.6	31		25		620
sec-Butylbenzene	6.0	19		25		300
tert-Butylbenzene	6.1	19		25		N.D.
Carbon tetrachloride	3.0	9.4		25		
Chlorobenzene	6.2	20		25 25		0.1.50
Chloroethane	13	40		25 25		ND.
Chloroform	3.8	12		25 25		
Chloromethane	3.6 8.1	26		25 25		N.D.
	6.7	20	•	25 25		N.D.
2-Chlorotoluene	1					N.D.
4-Chlorotoluene	9.8	31		25 25	•••••	N.D. N.D.
Dibromochloromethane	6.2	20	***************************************	25	•••••	N.D. N.D.
1,2-Dibromo-3-chloropropane	11	34	•••••	25	•••••	
1,2-Dibromoethane	8.4	27		25	•••••	N.D.
1,2-Dichlorobenzene	5.4	17	***************************************	25	•••••	N.D.
1,3-Dichlorobenzene	7.1	23		25	•••••	N.D.
1,4-Dichlorobenzene	7.6	24		25	•••••	N.D.
Dichlorodifluoromethane	11	35		25		N.D.
1,1-Dichloroethane	7.2	23		25		N.D.
1,2-Dichloroethane	2.3	7.5		25		N.D.
1,1-Dichloroethene	5.7	18	***********	25		N.D.
cis-1,2-Dichloroethene	6.0	19		25		N.D.
trans-1,2-Dichloroethene	5.4	17				N.D.
1,2-Dichloropropane	3.6	12				N.D.
1,3-Dichloropropane	6.1	19				N.D.
2,2-Dichloropropane	9.3	30				N.D.
Di-Isopropyl-Ether	5.3	17				200
Ethyl Benzene	3.5	11				440



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-6 4-6 EPA 5030/8021 B909542-05 Sampled: Sep 29, 1999 Received: Sep 30, 1999

Sep 30, 1999

Analyzed: Reported: Oct 8, 1999 Oct 12, 1999

## WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit μg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	R	cample Results ug/kg Weight
Hexachlorobutadiene	16	51		25		N.D.
Isopropylbenzene	3.5	11		25		210
p-Isopropyltoluene	9.8	31		25		N.D.
Methylene chloride	34	110		100		230₿
Methyl-tert-Butyl-Ether	6.6	21		25		N.D.
Napthalene	7.4	24		25		190
n-Propylbenzene	8.4	27		25		240
1,1,2,2-Tetrachloroethane	8.9	28		25		N.D.
Tetrachloroethene	5.2	16		25		N.D.
Toluene	3.4	11		25		90
1,2,3-Trichlorobenzene	8.5	27		25		N.D.
1,2,4-Trichlorobenzene	7.3	23		25		N.D.
1,1,1-Trichloroethane	5.6	18	************	25		N.D.
1,1,2-Trichloroethane	4.6	15		25		N.D.
Trichloroethene	6.2	20		25		
Trichlorofluoromethane	8.1	26		25		N.D.
1,2,4-Trimethylbenzene	5.0	16		25	•••••	870
1,3,5-Trimethylbenzene	6.2	20		25		320
Vinyl chloride	8.2	26	•••••	25		N.D.
Total Xylenes	6.6	21		25		<b>9</b> 70

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director Please Note

B= The blank associated with this sample contained 170 ppb of Methylene Chloride.

Page 2 of 2



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-6 10-12 EPA 5030/8021 B909542-06 Sampled: Sep Received: Sep

Sep 29, 1999 Sep 30, 1999

Analyzed: Oct 6, 1999 Reported: Oct 12, 1999

Analyte	Method Detection Limit μg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg ₩et Weight	Sample Results µg/kg Dry Weight
Benzene	2.6	8.1		25	N.D.
Bromobenzene	6.9	22		25	N.D.
Bromodichloromethane	5.1	16	************	25	N.D.
n-Butylbenzene	9.6	31		25	N.D.
sec-Butylbenzene	6.0	19		25	N.D.
tert-Butylbenzene	6.1	19		25	N.D.
Carbon tetrachloride	3.0	9.4		25	N.D.
Chlorobenzene	6.2	20		25	N.D.
Chloroethane	13	40		25	N.D.
Chloroform	3.8	12		25	N.D.
Chloromethane	8.1	26		25	N.D.
2-Chlorotoluene	6.7	21		25	N.D.
4-Chlorotoluene	9.8	31		25	N.D.
Dibromochloromethane	6.2	20		25	N.D.
1,2-Dibromo-3-chloropropane	11	34		25	N.D.
1,2-Dibromoethane	8.4	27		25	N.D.
1,2-Dichlorobenzene	5.4	17		25	N.D.
1,3-Dichlorobenzene	7.1	23		25	N.D.
1,4-Dichlorobenzene	7.6	24		25	N.D.
Dichlorodifluoromethane	11	35		25	N.D.
1,1-Dichloroethane	7.2	23		25	N.D.
1,2-Dichloroethane	2.3	7.5	•••••	25	N.D.
1,1-Dichloroethene	5.7	18		25	N.D.
cis-1,2-Dichloroethene	6.0	19		25	N.D.
trans-1,2-Dichloroethene	5.4	17		25	N.D.
1,2-Dichloropropane	3.6	12		25	N.D.
1,3-Dichloropropane	6.1	19		25	N.D.
2,2-Dichloropropane	9.3	30		25	N.D.
Di-Isopropyl-Ether	5.3	17		25	N.D.
Ethyl Benzene	3.5	11		25	N.D.



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Soil: GP-6 10-12 EPA 5030/8021

B909542-06

Sampled: Received:

Sep 29, 1999 Sep 30, 1999

Analyzed: Reported:

Oct 6, 1999 Oct 12, 1999

## WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg		WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
Hexachlorobutadiene	16	51		25	N.D.
Isopropylbenzene	3.5	11		25	N.D.
p-Isopropyltoluene	9.8	31		25	N.D.
Methylene chloride	34	110		100	240B
Methyl-tert-Butyl-Ether	6.6	21		25	N.D.
Napthalene	7.4	24		25	N.D.
n-Propylbenzene	8.4	27		25	N.D.
1,1,2,2-Tetrachloroethane	8.9	28		25	N.D.
Tetrachloroethene	5.2	16 ·		25	N.D.
Toluene	3.4	11		25	N.D.
1,2,3-Trichlorobenzene	8.5	27		25	N.D.
1,2,4-Trichlorobenzene	7.3	23		25	N.D.
1,1,1-Trichloroethane	5.6	18		25	N.D.
1,1,2-Trichloroethane	4.6	15		25	N.D.
Trichloroethene	6.2	20		25	N.D.
Trichlorofluoromethane	8.1	26		25	N.D.
1,2,4-Trimethylbenzene	5.0	16		25	N.D.
1,3,5-Trimethylbenzene	6.2	20		25	N.D.
Vinyl chloride	8.2	26		25	N.D.
Total Xylenes	6.6	21	•••••	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director Please Note:

B= The blank associated with this sample contained 170 ppb of Methylene Chloride.

Page 2 of 2



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012 Attention: Curt Hoffart

Client Project ID: Sample Descript: Tecumseh East Liquid: MeOH Blank EPA 5030/8021

Analysis Method: Lab Number: B909542-07 Sampled: Sep 29, 1999

Received: Sep 30, 1999

Analyzed: Oct 6, 1999 Revised Reported: Oct 21, 1999

Analyte	Method Detection Limit µg/L	Practical Quanitation Limit µg/L		WDNR Reporting Limit µg/L		Sample Results µg/L
Benzene	2.6	8.1		25		. N.D.
Bromobenzene	6.9	22		25		. N.D.
Bromodichloromethane	5.1	16		25		. N.D.
n-Butylbenzene	9.6	31		25	•••••	. N.D.
sec-Butylbenzene	6.0	19		25		. N.D.
tert-Butylbenzene	6.1	19		25		. N.D.
Carbon tetrachloride	3.0	9.4		25		. N.D.
Chlorobenzene	6.2	20		25	***************************************	. N.D.
Chloroethane	13	40	************	25		. N.D.
Chloroform	3.8	12	***************************************	25		. N.D.
Chloromethane	8.1	26		25	***************************************	. N.D.
2-Chlorotoluene	6.7	21		25		. N.D.
4-Chlorotoluene	9.8	31		25		. N.D.
Dibromochloromethane	6.2	20		25		. N.D.
1,2-Dibromo-3-chloropropane	11	34	***************************************	25	***************************************	. N.D.
1,2-Dibromoethane	8.4	27		25	•••••	. N.D.
1,2-Dichlorobenzene	5.4	17		25		. N.D.
1,3-Dichlorobenzene	7.1	23		25		. N.D.
1,4-Dichlorobenzene	7.6	24		25		. N.D.
Dichlorodifluoromethane	11	35		25		. N.D.
1,1-Dichloroethane	7.2	23		25		. N.D.
1,2-Dichloroethane	2.3	7.5	***************************************	25		. N.D.
1,1-Dichloroethene	5.7	18		25		. N.D.
cis-1,2-Dichloroethene	6.0	19		25		. N.D.
trans-1,2-Dichloroethene	5.4	17		25		. N.D.
1,2-Dichloropropane	3.6	12		25		. N.D.
1,3-Dichloropropane	6.1	19		25		. N.D.
2,2-Dichloropropane	9.3	30		25	***************************************	. N.D.
Di-Isopropyl-Ether	5.3	17		25	***************************************	. N.D.
Ethyl Benzene	3.5	11	***************************************	25	***************************************	. N.D.



Email: info@glalabs.com (847) 808-7766 FAX (847) 808-7772

Key Environmental Services, Inc. W66 N215 Commerce Ct Cedarburg, WI 53012

Attention: Curt Hoffart

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Tecumseh East Liquid: MeOH Blank EPA 5030/8021

B909542-07

Sampled: Received:

Sep 29, 1999 Sep 30, 1999

Analyzed:

Oct 6, 1999

Revised Reported:

Oct 21, 1999

## WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit μg/L	Practical Quanitation Limit µg/L		WDNR Reporting Limit µg/L		Sample Results <i>µ</i> g/L
Hexachlorobutadiene	16	51		25		. N.D.
Isopropylbenzene	3.5	11		25		. N.D.
p-lsopropyltoluene	9.8	31		25	***************************************	. N.D.
Methylene chloride	34	110		100		. 170B
Methyl-tert-Butyl-Ether	6.6	21	************	25		. N.D.
Napthalene	7.4	24		25		. N.D.
n-Propylbenzene	8.4	27		25		. N.D.
1,1,2,2-Tetrachloroethane	8.9	28		25		. N.D.
Tetrachloroethene	5.2	16	***************************************	25		. N.D.
Toluene	3.4	11		25		. N.D.
1,2,3-Trichlorobenzene	8.5	27		25		. N.D.
1,2,4-Trichlorobenzene	7.3	23		25		. N.D.
1,1,1-Trichloroethane	5.6	18		25	•••••	. N.D.
1,1,2-Trichloroethane	4.6	15		25		. N.D.
Trichloroethene	6.2	20		25		. N.D.
Trichlorofluoromethane	8.1	26		25		. N.D.
1,2,4-Trimethylbenzene	5.0	16		25		
1,3,5-Trimethylbenzene	6.2	20		25		. N.D.
Vinyl chloride	8.2	26		25		
Total Xylenes	6.6	21	***************************************	25		. N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director Please Note

B= The blank associated with this sample contained 170 ppb of Methylene Chloride.

Page 2 of 2

B909542-01.KEY <21>



# CHAIN OF CUSTODY REPORT

1380 Busch Parkway Buffalo Grove, IL 60089-4505 (847) 808-7766 FAX (847) 808-7772 20725 Watertown Road Brookfield, WI 53501 (414) 798-1030 FAX (414) 798-1066

Client: Key Engineering	Bill To: Accounting	TAT: (5 DAY 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS.	
Address: W66 N215 Commerce Ct	J 0	DATE RESULTS NEEDED: 10-7-99	
Cedarburg LUI 53012	. 7	EMPERATURE UPON RECEIPT:	
Cedarburg LUI 53012  Report to: Curt Hoffet Fax #: ( )	State &	AIR BILL NOCELA PU	
Project: Tecum seh East 0809004			
Occupation of the second of th	THE SERVICE OF THE SE	/ / / SAMPLE / CONTROL /	
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## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary William R. Selbig, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

October 15, 1998

Mr. Kerry DeKeyser Tecumseh Products 1604 Michigan Avenue New Holstein, WI 53061

Subject: SI Work Plan for Tecumseh Products - East Section Contaminated Fill Area, 1604 Michigan Avenue, New Holstein, Wisconsin, Calumet County, WDNR BRRTS ID# 02-08-193776

Dear Mr. DeKeyser:

In response to our telephone conversation today, I need to correct the locations of the two additional borings that you should drill during the site investigation at this site. One should be located south of MW-1 while the second should be located west of MW-1. The borings should be located within a reasonable distance to MW-1.

Please call me at (920) 492-5868 if you have any questions.

Sincerely,

Jennifer Huffman, P.G.

Hydrogeologist

Remediation and Redevelopment Program

Cc: Curt Hoffart - Key Engineering, W66 N215 Commerce Court, Cedarbury, WI 53012

bei Karl Rooverso









## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary William R. Selbig, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

October 12, 1998

Mr. Kerry DeKeyser Tecumseh Products 1604 Michigan Avenue New Holstein, WI 53061

Subject:

Acknowledgement of Receipt/Site Investigation Work Plan, Tecumseh Products - East Section Contaminated Fill Area, 1604 Michigan Avenue, New Holstein, Wisconsin,

Calumet County, WDNR BRRTS ID# 02-08-193776

Dear Mr. DeKeyser:

I have received and reviewed the above-referenced submittal from your environmental consultant, Key Engineering. However, staffing and workload levels do not allow me to provide you with detailed review and oversight at this time.

Therefore, this letter serves as your "Notice to Proceed" with investigation and remediation of the site. All actions must comply with all applicable statutes, program guidance, standards and Administrative Rules. This letter is not an approval of your work plans and reports. They will be filed as public records until the Department is able to review them, or until site remediation is completed.

In addition to the work proposed by your consultant and based on my discussions with them today, you should include the following:

- 1. Drill at least two additional soil borings, one located north of SB-6/MW-1 and one located west of SB-6/MW-1. All borings should be drilled within a reasonable distance to the contaminated fill found at SB-6/MW-1. These would be used in addition to the ones proposed by your consultant to identify whether fill material impacts detected at SB-6/MW-1 have impacted native soils beyond the known area of fill by defining the limits of fill.
- 2. Because of the unknown waste types present, samples should also be analyzed for PAHs and PCBs, in addition to VOCs and the eight RCRA metals.
- 3. Your consultant has indicated today that a starting date for the investigative field work has not been identified yet. We would like to observe and potentially collect samples during the drilling. Please notify us at least 5 working days prior to drilling activities.

Your consultant must follow the Wisconsin Administrative Code NR 700 series. It is very important that your consultant understands and meets the minimum standards established by the Department; however, you, as the responsible party, are ultimately responsible for the







W66 N215 Commerce Court Cedarburg, Wisconsin 53012 (414) 375-4750 (800) 645-7365 Fax (414) 375-9680 OCT 0 9 1998
LMD SOLID WASTE

October 6, 1998

Ms. Jennifer Huffman, Hydrogeologist Remediation and Redevelopment Program Wisconsin Department of Natural Resources Northeast Region Headquarters 1125 North Military Avenue Post Office Box 10448 Green Bay, Wisconsin 54307-0448

Reference:

Limited Site Investigation Work Plan

Tecumseh Products Company-East Section Fill Area

1604 Michigan Avenue New Holstein, Wisconsin

WDNR BRRTS #02-08-193776

KEY ENGINEERING GROUP, LTD.

File No. 0809004

Dear Ms. Huffman:

The purpose of this letter is to provide the Wisconsin Department of Natural Resources (WDNR) with a *Limited Site Investigation (LSI) Work Plan* for the above referenced site. This letter was prepared by Key Engineering Group, Ltd. (KEY) on behalf of Tecumseh Products Company (Tecumseh).

Purpose of Limited Site Investigation

Approximately 8 feet of fill material, which included gravel, paint chips, metal shavings, ash, and green stained soil, was encountered during a gasoline leaking underground storage tank (LUST) site investigation in the East Section (WDNR LUST ID# 03-08-01070). The fill material was encountered at soil boring SB-6 (MW-1), located near the northeast corner of the Tecumseh facility. Concentrations of benzene, ethylbenzene, xylenes, and trimethylbenzenes (TMBs) were detected in a sample of the fill material collected from 4 to 6 feet below ground surface (bgs). The benzene concentration exceeded the NR 720 generic residual contaminant level (GRCL) based on the protection of groundwater.

The WDNR notified Tecumseh in a July 29, 1998 letter to submit a work plan for the investigation of the fill material impacts. Additionally, the WDNR notified Tecumseh in an August 4, 1998 letter that management of this area of contamination in accordance with NR 700 through NR 728 is required.

Ms. Jennifer Huffman October 6, 1998 Page 2

Objective and Scope of Limited Site Investigation

The objectives of the LSI are to identify whether fill material impacts detected at SB-6/MW-1 have impacted native soils beyond the area of fill and to evaluate whether remedial action associated with the fill material impacts is warranted. Based on these objectives, the LSI will consist of advancing two (2) soil probes to a depth of approximately 15 feet bgs (groundwater is present at approximately 10 to 12 feet bgs at MW-1). The soil probes will be placed north and east of SB-6/MW-1 as depicted on Figure 1. Following collection of additional soil/fill material data, additional activities, such as the development of site-specific soil standards or the collection of additional groundwater samples from MW-1 may be warranted.

## Soil Probes and Soil Sampling

The soil probes will be advanced with a van-mounted Geoprobe® unit. A 2-foot long stainless steel sampler with an acetate liner will be driven to the desired sampling depth using stainless steel rods and a hydraulic ram. Downhole soil probe equipment and associated tools will be washed prior to the initiation of field activities. The soil probe equipment will be decontaminated between each soil sampling interval to minimize the potential for cross-contamination. The decontamination procedure will consist of scrubbing the 2-foot stainless steel sampler with a brush and a soap and water Alconox® solution followed by one (1) tap water rinse after each sampling interval.

Soil samples will be classified in accordance with the Unified Soil Classification System (USCS). Soil boring logs will be completed by KEY to document the drilling method, sampling method, depth of the sample, sample recovery, the soil USCS classifications, soil moisture, color, field screening results, olfactory observations, and groundwater level observations.

A portion of each soil sample will be placed into a resealable plastic bag for field screening. The soil samples will be field screened for organic vapors using a model 580B Organic Vapor Meter (OVM) photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp, calibrated to isobutylene. The sealed bag will be shaken to release volatile organic vapors. The bag will then be slightly opened and the tip of the PID will be inserted into the headspace and the highest reading recorded. After field screening, two (2) soil samples collected from each soil probe from the unsaturated zone will be submitted to a WDNR certified laboratory for analysis of volatile organic compounds (VOCs) and eight (8) Resource Conservation and Recovery Act (RCRA) metals. At soil probe locations where fill material is encountered, one (1) sample collected from the fill material and one (1) sample collected from underlying native soil will be submitted for analysis. Three (3) soil samples will also be submitted for analysis of total organic carbon (TOC) to support potential evaluation of site-specific soil cleanup standards.

Following soil sample collection, the soil probes will be abandoned in accordance with NR 141, and WDNR borehole abandonment forms will be completed.

Site Investigation Letter Report Preparation

Following the completion of the LSI, a letter report documenting the results of the LSI will be prepared and submitted to the WDNR. The letter will include soil probe logs, a figure showing the

Ms. Jennifer Huffman October 6, 1998 Page 3

locations of the soil probes, laboratory analytical results, results of field activities, and conclusions and recommendations.

Curtis M. Hoffart, CHMM

**Project Associate** 

Preliminary Schedule

Tecumseh will proceed with the identified LSI scope in October 1998.

Please call if you have any questions.

Sincerely,

KEY ENGINEERING GROUP, LTD.

Rachel A. Ames

Staff Hydrogeologist

Gregory L. Johnson, CHMM, P.G., P.E.

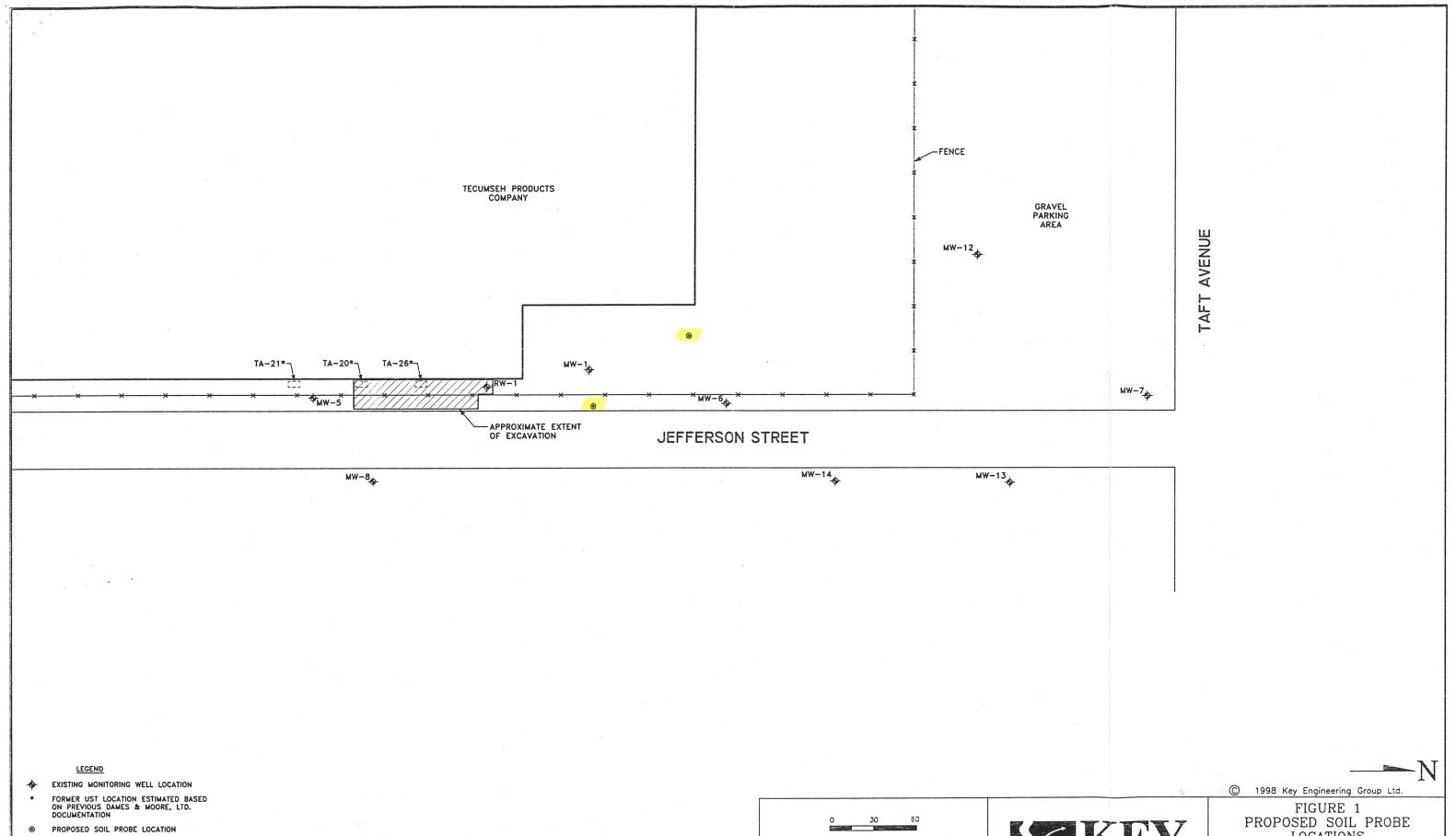
Manager of Technical Services

RAA/jml

cc: Mr. Kerry DeKeyser

Mr. Bruce McCuaig

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SCALE: 1"=60'

09/30/98

0809004

08090042

S.L.G. DATE:

C.M.H.

C.M.H. FILE NO .:

G.L.J. SHEET NO.:

DWG. NO.:

DRN. BY:

CHK. BY:

REV. BY:

5

LOCATIONS

LIMITED SITE INVESTIGATION WORK PLAN EAST SECTION FILL AREA TECUMSEH PRODUCTS COMPANY 1604 MICHIGAN AVENUE NEW HOLSTEIN, WISCONSIN



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary William R. Selbig, Regional Director Northeast Regional Headquarters Solid Waste Office PO Box 10448, 1125 N. Military Ave. Green Bay, Wisconsin 54307-0448 TELEPHONE 414-492-5916 FAX 414-492-5859 TDD 414-492-5812

August 4, 1998

Tecumseh Products Kerry Dekeyser 1604 Michigan Ave. New Holstein, WI 53061

SUBJECT:

Reported Contamination at Tecumseh Products; 1604 Michigan Ave., Fill Area at

MW-1; New Holstein, WI BRRTS CASE #02-08-193776

Dear Mr. DeKeyser:

The Wisconsin Department of Natural Resources has been notified of soil contamination at the above referenced location.

Based on the information received by the Department of Natural Resources, we believe you are responsible for restoring the environment at this site under Section 292.11, Wisconsin Stats., known as the hazardous substances spills law. Your responsibilities include investigating the extent of the contamination and then selecting and implementing the most appropriate remedial action. Enclosed is information to help you understand what you need to do to ensure your compliance with the spills law.

The purpose of this letter is threefold: 1) to describe your legal responsibilities, 2) to explain what you need to do to investigate and clean up the contamination, and 3) to provide you with information about cleanups, environmental consultants, possible financial assistance, and working cooperatively with the Department of Natural Resources.

## Legal Responsibilities:

Your legal responsibilities are defined both in statute and in administrative codes. The hazardous substances spill law, Section 292.11 (3) Wisconsin Statutes, states:

\* RESPONSIBILITY. A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state.

Wisconsin Administrative Codes chapters NR 700 through NR 728 establish requirements for emergency and interim actions, public information, site investigations, design and operation of remedial action systems, and case closure. Chapter NR 708 includes provisions for immediate actions in response to limited contamination. Wisconsin Administrative Code chapter NR 140 establishes groundwater standards for contaminants that reach groundwater.

## Steps to Take:

The longer contamination is left in the environment the farther it can spread and the more it may cost to



## **Information for Site Owners:**

Enclosed is a list of environmental consultants and some important tips on selecting a consultant. Also enclosed are materials on controlling costs, understanding the cleanup process, and choosing a site cleanup method. This information has been prepared to help you understand your responsibilities and what your environmental consultant needs to do. Please read this information carefully.

If you have any questions about this letter or your responsibilities, please call Jennifer Huffman at (920) 492-5868.

Thank you for your cooperation.

Sincerely,

Joshua J. Van Lieshout

Waste Management Specialist Remediation and Redevelopment

Enclosure

cc: Curtis Hoffart; Key Environmental; W66 N215 Commerce Ct.; Cedarburg, WI 53012

Jennifer Huffman--WDNR

Josh J.U. Cihont

File



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary William R. Selbig, Regional Director Northeast Region Headquarters 1125 N. Military Ave., P.O. Box 10448 Green Bay, Wisconsin 54307-0448 Telephone 920-492-5800 FAX 920-492-5913 TDD 920-492-5912

July 29, 1998

Mr. Kerry DeKeyser Tecumseh Products 1604 Michigan Avenue New Holstein, WI 53061

Subject:

Denial of Case Closure for Tecumseh Products - East Section, 1604 Michigan Ave., New Holstein, Wisconsin, Calumet County, WDNR BRRTS ID# 03-08-1070, PECFA Claim Number 53061-1153-04B

Dear Mr. DeKeyser:

I've reviewed the case closure request submitted by Key Environmental on your behalf for the site identified above. Based on my review, I can not forward the case to the Northeast Region Closure Committee at this time. To move this case towards closure you should do the following:

- 1. Submit information on how the soils and groundwater in the TA-21 area have been investigated and remediated. The tank closure assessment for this tank indicates that the tank had leaked and the soils below the tank bed and water table are contaminated. Based on the information I have, it appears that the soil in this area was not included in the excavated area for tanks TA-20 and TA-26. In addition, I do not have enough information to lead me to believe that the groundwater in the former tank area immediately downgradient of TA-21 was investigated. I know that MW-5 is in the general area but where is it located with respect to TA-21 and how far away is it?
- 2. Include the natural attenuation geochemical indicator parameters in the groundwater monitoring program to show whether natural attenuation is occurring at the site (by causing a reduction in mass and concentration of the contaminants). This is required as part of any groundwater monitoring program if a closure using natural attenuation as the final groundwater remedy is be sought for the site.
- 3. Provide an estimated time that the groundwater will reach the groundwater quality standards in NR 140, Wis. Adm. Code, using natural attenuation as the final groundwater remedy and show that this is a reasonable period of time considering the criteria in NR 722.07, Wis. Adm. Code. This information is required for any natural attenuation closure for groundwater in NR 726.05(2)(b)2.
- 4. Include napthalene in the final rounds of groundwater monitoring as required by the WDNR's April 12, 1994 correspondence. You should also include MW-14 in the monitoring program since recent results from the chlorinated contaminant investigation show that this well has been contaminated with MTBE above the NR 140 Preventive Action Limit (PAL).

Your consultant has been in touch with me about the urgent need for Department approval to biopile contaminated soils from the Tecumseh West Section (#03-08-1071) on the area of previously spread East Section soils. The results for the East Section (#03-08-1070) biopile soils showed that the excavated soil had been remediated to concentrations below the NR 720 RCLs for the PVOCs prior to spreading.





# TECUMSEH PRODUCTS CORPORATION NEW HOLSTEIN, WISCONSIN

Tank Identification	Capacity	Product Contained	Date of Installation	Date of Removal
TA-1 03-08-001091	3,000 gallons	Xylene	1966	7/30/91
TA-2	3,000 gallons	Xylene (recycled solvent)	1966	10/28/91
TA-18	2,000 gailons	90% Unleaded Gasoline 10% Isopropyl Alcohol	~1966	7/30/91
TA-19¹ ♥	2,000 gallons	Unleaded Gasoline	~1966	
TA-201 03-08-001070	2,000 gallons	90% Unleaded Gasoline 10% Isopropyl Alcohol	~1967	9/29/92
TA-21	2,000 gallons	90% Unleaded Gasoline 10% Isopropyl Alcohol	~1967	10/30/91
TA-221	2,000 gallons	Kerosene	~1967	7/29/92
TA-23 Clean Cls.	1,000 gallons	Unleaded Gasoline	~ 1967	7/31/92
TA-24 Clean Cls.	1,000 gallons	Unleaded Gasoline	1956	~ 1989
TA-26 03-08-001090	300 gallons	Unleaded Gasoline	1967	7/30/91

<sup>1</sup> UST essential to operations at Tecumseh New Holstein facility.