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Ground Water Monitoring
First Quarter 2003
D-F Incorporated

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Project No. BU203

Environmental Resources Management
700 West Virginia Street, Suite 601
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CERTIFICATIONS

I, Carl B. Stay, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Carl B Stay

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Carl B. Stay, P.E., P.G.

26 April 2003

Date



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INTRODUCTION

This First Quarter 2003 Ground Water Monitoring Report (the "Report") presents the results of the ground water monitoring activities performed during the first quarter of 2003 at the D-F Incorporated site located at 2517 East Norwich Avenue in St. Francis, Wisconsin (the "Site"). The Site is located in the northwest $\frac{1}{4}$ of the northeast $\frac{1}{4}$ of Section 22, Township 6 North, Range 22 East in Milwaukee County, Wisconsin (Figure 1). The Site is bounded on the north by East Norwich Avenue and on the west by South Pennsylvania Avenue. Figure 2 presents the major features of the Site and the surrounding area.

These ground water monitoring activities performed on January 8, 2003 included: (1) the measurement of ground water elevations, (2) the measurement of water quality parameters in all wells, and (3) the collection of ground water samples for laboratory analysis from four monitoring wells.

This report summarizes the results of these sampling activities and compares this information to previous sample series in the semi-annual monitoring program for the site, which began in September 1999. Mr. Scott Ferguson of the Wisconsin Department of Natural Resources (WDNR) approved this semi-annual sampling frequency in a letter dated August 18, 1999. In that letter, Mr. Ferguson agreed to the sampling of four monitoring wells (MW-2, MW-4, MW-7 and MW-15) for the presence of volatile organic compounds by USEPA SW-846 Method 8260, and the remaining wells for general water quality constituents (temperature, pH, conductivity, dissolved oxygen and oxidation-reduction potential). The locations of all monitoring wells at the site are presented in Figure 2.

2.0 INVESTIGATIVE METHODS

2.1 GROUND WATER ELEVATIONS

Ground water elevations were measured on January 8, 2003 in all Site monitoring wells by using an electronic water level indicator. The depth to water from the surveyed reference point (i.e., top of well casing) was recorded to the nearest 0.01 foot, and then converted to an elevation in feet above mean sea level (AMSL). The water level indicator was decontaminated according to the procedures described in Section 2.3.

2.2 GROUND WATER SAMPLING

Ground water samples were collected for volatile organic compounds (VOCs) from monitoring wells MW-2, MW-4, MW-7, and MW-15 (Figure 2). The polyvinyl chloride (PVC) bailers and all other equipment used to purge and sample the wells were decontaminated according to the procedures described in Section 2.3. Standing water was removed from each well by purging a minimum of four well volumes or until consistent values of temperature, pH, and specific conductance were obtained for two consecutive water samples, or until the well was purged dry. Consistent values are herein described as being temperature values within 1.0 degree Celsius, pH values within 0.05 pH units, and conductivity values within 10% of each other. Purged ground water was placed in U.S. Department of Transportation-approved steel drums and staged on site for future management. These well sampling procedures comply with the methods outlined in the WDNR Ground Water Sampling Desk Reference (PUBL-DG-037 96).

All of the collected ground water samples were placed in laboratory-certified clean sample containers using dedicated bailers. VOC sample containers were received from the laboratory already containing the required 2 milliliters (ml) of reagent-grade 1:1 hydrochloric acid. The sample containers were properly labeled, placed under ice in a cooler, and shipped under standard chain-of-custody protocol to Great Lakes Analytical of Oak Creek, WI (a Wisconsin-certified analytical laboratory). The samples were analyzed using methods described in the U.S. Environmental Protection Agency's (USEPA's) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, as shown in Table 1.

ERM collected and submitted two samples for quality assurance/quality control (QA/QC) purposes including one trip blank, one field duplicate

sample (MW-7D), one matrix spike and matrix spike duplicate (MW-2MS/MSD) and one field blank (MW-4B).

Prior to the collection of laboratory samples, ERM measured depth to water using a water level meter, and water quality using a down-hole water-quality probe equipped to measure the following water quality parameters: (1) temperature, (2) pH, (3) conductivity, (4) oxidation/reduction potential (ORP), and (4) dissolved oxygen (DO).

2.3 *DECONTAMINATION PROCEDURES*

The water level indicator, downhole water quality probe, dedicated PVC bailers, and all other equipment used during the ground water monitoring activities were washed using a laboratory-grade detergent solution and rinsed with distilled water prior to and between each use. Laboratory-grade latex or butyl rubber gloves were worn during these activities, and a new pair of gloves was worn during activities at each well to prevent cross-contamination. Used gloves were placed in a plastic bag and discarded as trash, and decontamination water was placed in a 55-gallon, U.S. Department of Transportation-certified steel drum and staged on site for future management.

3.0 INVESTIGATION RESULTS

3.1 GROUND WATER ELEVATIONS

Depth to water measurements were recorded on January 8, 2003. A summary of these water level elevations as well as elevations measured during the previous three events are shown in Table 2. In general, ERM observed that these water levels were among the lowest recorded at the site. Observations at two of the monitoring wells are noteworthy: At MW-7, ERM observed an oil layer approximately 0.12 feet thick above the water column. The origin of this oil is unknown but may be related to the dissolved groundwater plume that includes reported concentrations of petroleum constituents. In addition, a water level was not measurable in MW-14 because of the absence of water in this well. Therefore, this monitoring point was not sampled for water quality, and was not used in the contouring of water levels.

ERM converted the January 8, 2003 depth-to-water measurements to elevation in feet AMSL (Table 2) and used the elevations to prepare a ground water contour map as shown on Figure 3.

The ground water contour map (Figure 3) indicates a similar configuration of the water table as observed historically. The ground water contour map indicates that the direction of ground water flow beneath the Site on January 8, 2003 is to the northeast, consistent with the information obtained during previous monitoring activities.

A consistently high hydraulic head in the vicinity of monitoring well MW-2 indicates that ground water continues to migrate onto the Site from the south. A concrete block wall constructed along the southern boundary of the site behind the sheet metal building (Figure 2) acts as a partial barrier to northerly ground water flow. It is likely that ground water flowing to the north encounters this wall and is diverted either east or west around the wall. Buildup of ground water behind (south of-) this wall is also influenced by precipitation, which seeps into the ground on the Kitzinger property. This is also evidenced by ponding of water behind this wall immediately after precipitation or snowmelt events. During periods of high runoff, water cascades over this wall and floods the area behind the sheet metal building.

The consistently low hydraulic head in the vicinity of monitoring well MW-9 indicates that this well may be adjacent to a ground water sink (i.e., infiltration of ground water into nearby underground storm or sanitary sewers or the associated backfill material). Although the overall ground

water flow direction is to the northeast, localized flow beneath different portions of the Site is to the north or to the east. The mean hydraulic gradient for the January 8, 2003 monitoring event is 0.021 foot/foot.

3.2 GROUND WATER SAMPLING RESULTS

ERM followed the sampling procedures outlined in Section 2.2 of this report, and the analytical laboratory followed the analysis procedures outlined in the USEPA's SW-846 for Method 8260.

3.2.1 *Water Quality Parameters*

Prior to collecting samples for laboratory analysis, ERM measured water-quality in each of the wells. The results of these measurements along with the previous three monitoring events are summarized in Table 3. Water quality parameters are useful aids in determining whether VOCs are degrading due to naturally occurring microorganisms in the subsurface environment. General indicators of biological activity occur when levels of dissolved oxygen (DO) are less than 1 mg/L, pH is between 5 and 9, and oxidation-reduction potential is less than 50 millivolts. The water quality data collected on January 8, 2003 indicate that suitable conditions exist for the biodegradation of VOCs in the shallow ground water beneath the Site. The water quality parameters as presented in this report are not always consistent with the values reported during previous sampling events (e.g., dissolved oxygen and ORP). It is possible that seasonal variation in water level and the presence of a frost layer in the winter months prevents the groundwater from being oxygenated, thereby driving the conditions toward an anaerobic state.

3.2.2 *Volatile Organic Compounds*

On January 8, 2003, ERM submitted the ground water samples to Great Lakes Analytical for analysis of VOCs. The laboratory analytical results for this round and the previous three sampling rounds are summarized on Table 4. Only those constituents that were detected are reported on this table. A copy of the laboratory reports prepared for the January 8, 2003 sampling event is provided in Appendix A of this report.

Ground water samples contained constituent concentrations that exceeded the respective Preventive Action Limits (PALs) or Enforcement Standards (ESs) found in Chapter NR 140 of the WAC (Table 4) for one or more of the following constituents:

- The PVOCs benzene, ethyl benzene, toluene, total xylenes and the combined 1,2,4- and 1,3,5-trimethyl benzenes (TMBZs); and
- The VOCs tetrachloroethene (PCE); trichloroethene (TCE); cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); 1,1-dichloroethene (1,1-DCE); vinyl chloride (VC); chloroform; 1,1,2-trichloroethane (1,1,2-TCA); 1,1,1-trichloroethane (TCA); 1,2-dichloroethane (1,2-DCA); 1,1-dichloroethane (1,1-DCA); chloroethane (CA); methylene chloride (MeCl); and naphthalene.

The types and distributions of VOCs detected in the First Quarter 2003 ground water samples are consistent with the results from the previous sampling events.

Samples obtained from monitoring well MW-2 have continued to show the presence of several VOCs above the ES; namely PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCE; VC; chloroform; 1,1,2-TCA; TCA; 1,2-DCA; 1,1-DCA; CA; MeCl; and naphthalene. Concentrations of the PVOCs benzene, toluene, ethylbenzene, xylenes, and combined TMBZs also exceeded the ES.

The ES was exceeded in samples collected from MW-4 for benzene and VC. The PAL was exceeded for TCE; cis-1,2-DCE; CA; methylene chloride; and naphthalene.

The sample collected from MW-7 had ES exceedances for PCE; TCE; cis-1,2-DCE; trans-1,2-DCE; 1,1-DCE; VC; 1,1,2-TCA; TCA; 1,2-DCA; and 1,1-DCA; methylene chloride and naphthalene. Concentrations of the PVOCs benzene, toluene, ethylbenzene and combined TMBZs also exceeded the ES. The PAL was exceeded for total xylenes and 1,3,5-TMBZ

The sample collected from MW-15 had ES exceedances for VC; 1,2-DCA; chloroethane; and ethylbenzene. The PAL was exceeded by concentrations of benzene; toluene, total xylenes; methylene chloride; naphthalene; 1,3,5-TMBZ; PCE; TCE; cis-1,2-DCE; TCA; and 1,1-DCA.

3.3 *COMPARISON TO PREVIOUS SAMPLING EVENTS*

The results of the January 8, 2003 sampling event were compared to results of previous events to determine whether VOC concentrations are stable, increasing or decreasing in wells. The results, shown in Table 5, were compared performing a Mann-Kendall statistical test through the use of a computer spreadsheet provided by the WDNR (4400-215, 2/2001). A printout of the data used, and the spreadsheet calculations are provided in Appendix B.

Ten monitoring events were used in this trend analysis beginning with the June 25, 1998 monitoring event and extending to the January 8, 2003 monitoring event. Where constituent concentrations were reported below the analytical detection limit, they were omitted from the analysis to prevent bias due to the fluctuation of detection limit.

Table 5 summarizes the trend analysis and lists whether the VOC has an increasing, stable, or decreasing trend. Then, a comparison was made between the results for MW-2, MW-4, MW-7 and MW-15. The trend analysis resulted in one of four possible outcomes for each VOC as follows:

- Increasing trend (INCR) at an 80% confidence level,
- Decreasing trend (DECR) at an 80% confidence level,
- Undetermined stable (US) trend (coefficient of variance ≤ 1), and
- Undetermined non-stable (UN) trend (coefficient of variance > 1).

In addition, the trend analysis requires at least four data points. If less than four data points are available, then a spreadsheet error occurs and "n<4" is printed.

The results from samples collected from MW-2 indicate that one VOC (CA) showed an increasing trend, eleven (65%) showed an undetermined stable trend, one showed an undetermined nonstable trend, and two (12%) showed a decreasing trend. Two constituents (12%) had insufficient data to allow the determination of a trend. They are PCE; and trans-1,2-DCE.

The samples collected from MW-4 indicate that one VOC (Xylenes) was increasing, three (18%) of the constituents showed an undetermined stable trend, and seven (41%) showed a decreasing trend. Five constituents (29%) had insufficient data to allow the determination of a trend. They were toluene; 1,3,5-TMBZ; PCE; 1,1-DCE; 1,1,2-TCA; and TCA.

Trend analysis for VOCs detected in MW-7 indicated that one VOC (VC) was increasing, seven (41%) had an undetermined stable trend, and eight (47%) had a decreasing trend. One constituent (CA) had insufficient data to calculate a trend.

The trend analysis for VOCs detected in MW-15 indicated that three (18%) indicated an increasing trend, four (24%) indicated an undetermined stable trend, one indicated an undetermined nonstable trend, and six (35%) showed a decreasing trend. Three constituents (18%) had

insufficient data to allow the calculation of a trend. They are TCE; trans-1,2-DCE; and 1,1,2-TCA.

This analysis indicates that overall, VOCs have an undetermined stable trend in the groundwater beneath the Site, and that the ground water plume is either stable or decreasing. In particular, the trends in MW-4 suggest that, with the exception of xylenes that appear to be increasing, the plume is naturally attenuated insofar as the data indicated on the D-F Incorporated property shows. This stable or decreasing state of the ground water plume is expected to continue in the future.

CONCLUSIONS

The following conclusions can be made from the information obtained during the First Quarter 2003 ground water monitoring activities:

- The direction of ground water flow beneath the Site is primarily to the northeast and has an average gradient of 0.021 foot/foot. Man-made structures such as walls, buildings, conduits, culverts, and utility lines influence the direction of ground water flow adjacent to, and beneath, portions of the Site.
- The levels of VOCs measured in several of the ground water samples obtained during this monitoring event exceed the applicable PAL and ES contained in Chapter NR 140 of the WAC.
- The results of water quality measurements (i.e., DO) indicate that conditions exist for the biodegradation of VOCs present in shallow ground water beneath the Site.
- Constituent trends indicate an overall decrease in concentrations of chlorinated VOCs across the Site. This overall decrease is likely due to the naturally occurring degradation of these constituents and also a decrease in the upgradient, off-site source of contamination.

5.0

RECOMMENDATIONS

Because of the likely presence of an off-site source, ground water contamination will continue to exist upgradient of and beneath the site until these off-site sources have been adequately addressed by other responsible parties. ERM therefore recommends that CenturyTel submit an off-site exemption request to the WDNR and discontinue semiannual ground water monitoring at the site.

TABLES

TABLE 1

FIELD AND LABORATORY ANALYTICAL PARAMETERS
FIRST QUARTER 2003
D-F INCORPORATED
ST. FRANCIS, WISCONSIN

Parameter	Method of Analysis	Note
Volatile Organic Compounds	SW-846 Method 8260	1
Water Quality Parameters		
Temperature	EPA Method 170.1	2
Specific Conductivity	EPA Method 9050A	1
pH	EPA Method 9040B	1
Dissolved Oxygen	EPA Method 360.1	2
Oxidation-reduction potential	USGS, 1981	3

Notes:

- ¹ United States Environmental Protection Agency, Methods for Evaluating Water and Wastes, SW-846.
- ² USEPA, Methods for Chemical Analysis of Water and Wastes, 1983.
- ³ United States Geologic Survey, 1981. Guidelines for Collection and Field Analysis of Ground Water Samples for Selected Unstable Constituents. Techniques of Water-Resources Investigations, Book 1, Chapter D2.

TABLE 2
GROUND WATER ELEVATIONS¹
D-F INCORPORATED
ST. FRANCIS, WISCONSIN

Well			Elevation ²			
	TOC	Ground Surface	9/7/00	3/30/01	4/16/02	1/8/03
MW-1	659.21	658.90	653.12	653.19	654.11	652.34
MW-2	665.58	666.12	660.58	660.72	661.20	658.10
MW-3	658.92	659.32	652.22	652.70	653.52	650.72
MW-4	660.81	658.57	653.86	653.56	654.02	652.14
MW-5	662.19	662.66	654.15	653.71	654.80	652.06
MW-6	663.60	663.85	655.10	654.76	656.02	652.66
MW-7	658.74	659.13	656.32	656.20	657.61	653.32
MW-8	663.08	663.35	657.84	657.34	658.16	655.55
MW-9	659.23	658.29	646.52	646.67	647.32	646.16
MW-14	666.69	667.22	655.92	654.83	655.51	Dry
MW-15	664.91	665.61	655.39	655.14	655.61	652.87

Notes:

¹ Only the last four rounds of water level measurements are reported here.

² Elevations are in feet above mean sea level.

Key:

TOC = Top of casing.

TABLE 3

NATURAL ATTENUATION PARAMETERS
D-F INCORPORATED
ST. FRANCIS, WISCONSIN
(Page 1 of 4)

Parameter	Biological Activity Indicators ⁽¹⁾	MW-2			
		10/9/00	3/30/01	4/16/02	1/8/03
Temperature (degrees C)	--	13.85	9.2	9.18	12.14
pH	5< pH <9	6.69	6.99	7.2	6.25
Dissolved Oxygen (mg/L)	BG > DO < 1 mg/L	0.68	5.35	4.19	0.61
Oxidation-Reduction Potential (mV)	BG > ORP < 50 mV	-80	38	-42	151
Specific Conductivity (µmhos)	--	1153	820	752	1278

KEY:

BG = Background Sample

NA = Not analyzed.

General Indication of Biological Activity

NOTE:

⁽¹⁾ Biological Activity Indicators were developed based on the following guidance documents:

WDNR Bureau for Remediation and Redevelopment. October 1999. Interim Guidance On Natural Attenuation for Petroleum Releases. PUB-RR-614.

Widemeier, T. et al. 1995. Technical Protocol for implementing intrinsic remediation with Long term monitoring for natural attenuation of fuel contaminant dissolved in groundwater, Vol. 1, San Antonio, Texas: Air Force Center for Environmental Excellence, Brooks Air Force Base.

Widemeier, T. et al. September 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water. EPA/600/R-98/128. USEPA Office of Research and Development.

TABLE 3

NATURAL ATTENUATION PARAMETERS
D-F INCORPORATED
ST. FRANCIS, WISCONSIN
(Page 2 of 4)

Parameter	Biological Activity Indicators ⁽¹⁾	MW-4			
		10/9/00	3/30/01	4/16/02	1/8/03
Temperature (degrees C)	--	15.62	8.91	8.62	11.81
pH	5 < pH < 9	7.17	7.18	7.09	6.83
Dissolved Oxygen (mg/L)	BG > DO < 1 mg/L	2.25	3.66	2.99	0.75
Oxidation-Reduction Potential (mV)	BG > ORP < 50 mV	-48	159	-36.5	163
Specific Conductivity (µmhos)	--	963	812	886	791

KEY:

BG = Background Sample

NA = Not analyzed.

General Indication of Biological Activity

NOTE:

⁽¹⁾ Biological Activity Indicators were developed based on the following guidance documents:

WDNR Bureau for Remediation and Redevelopment. October 1999. Interim Guidance On Natural Attenuation for Petroleum Releases. PUB-RR-614.

Widemeier, T. et al. 1995. Technical Protocol for implementing intrinsic remediation with Long term monitoring for natural attenuation of fuel contaminant dissolved in groundwater, Vol. 1, San Antonio, Texas: Air Force Center for Environmental Excellence, Brooks Air Force Base.

Widemeier, T. et al. September 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water. EPA/600/R-98/128. USEPA Office of Research and Development.

TABLE 3

NATURAL ATTENUATION PARAMETERS
 D-F INCORPORATED
 ST. FRANCIS, WISCONSIN
 (Page 3 of 4)

Parameter	Biological Activity Indicators ⁽¹⁾	MW-7			
		10/9/00	3/30/01	4/16/02	1/8/03
Temperature (degrees C)	--	17.8	5.33	12.9	11.65
pH	5 < pH < 9	7.36	7.28	7.34	6.44
Dissolved Oxygen (mg/L)	BG > DO < 1 mg/L	2.19	5.42	3.97	0.41
Oxidation-Reduction Potential (mV)	BG > ORP < 50 mV	-73	113	-49	160
Specific Conductivity (µmhos)	--	601	879	407	1669

KEY:

BG = Background Sample

NA = Not analyzed.

General Indication of Biological Activity

NOTE:

⁽¹⁾ Biological Activity Indicators were developed based on the following guidance documents:

WDNR Bureau for Remediation and Redevelopment. October 1999. Interim Guidance On Natural Attenuation for Petroleum Releases. PUB-RR-614.

Widemeier, T. et al. 1995. Technical Protocol for implementing intrinsic remediation with Long term monitoring for natural attenuation of fuel contaminant dissolved in groundwater, Vol. 1, San Antonio, Texas: Air Force Center for Environmental Excellence, Brooks Air Force Base.

Widemeier, T. et al. September 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water. EPA/600/R-98/128. USEPA Office of Research and Development.

TABLE 3

NATURAL ATTENUATION PARAMETERS
D-F INCORPORATED
ST. FRANCIS, WISCONSIN
(Page 4 of 4)

Parameter	Biological Activity Indicators ⁽¹⁾	MW-15			
		10/9/00	3/30/01	4/16/02	1/8/03
Temperature (degrees C)	--	14.65	8.16	NA	11.79
pH	5 < pH < 9	7.4	7.27	NA	7
Dissolved Oxygen (mg/L)	BG > DO < 1 mg/L	2.7	4.35	NA	0.23
Oxidation-Reduction Potential (mV)	BG > ORP < 50 mV	-62	-20	NA	124
Specific Conductivity (µmhos)	--	1010	1506	NA	1036

KEY:

BG = Background Sample

NA = Not analyzed.

General Indication of Biological Activity

NOTE:

⁽¹⁾ Biological Activity Indicators were developed based on the following guidance documents:

WDNR Bureau for Remediation and Redevelopment. October 1999. Interim Guidance On Natural Attenuation for Petroleum Releases. PUB-RR-614.

Widemeier, T. et al. 1995. Technical Protocol for implementing intrinsic remediation with Long term monitoring for natural attenuation of fuel contaminant dissolved in groundwater, Vol. 1, San Antonio, Texas: Air Force Center for Environmental Excellence, Brooks Air Force Base.

Widemeier, T. et al. September 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water. EPA/600/R-98/128. USEPA Office of Research and Development.

TABLE 4

GROUND WATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS¹

MARCH 1999 TO JANUARY 2003

D-F INCORPORATED, ST. FRANCIS, WISCONSIN

(PAGE 1 OF 4)

PARAMETER	ES	PAL	MW-2 3/11/99	MW-2 9/23/99	MW-2 3/23/00	MW-2 (Dup) 3/23/00	MW-2 10/9/00	MW-2 (Dup) 10/9/00	MW-2 3/30/01	MW-2 4/16/02	MW-2 1/8/03
Benzene	5	0.5	61	<100	<50	<50	27.1	22.6	<500	17.8	30.5
Toluene	1000	200	2300	3700	2100	2100	2100	1720	2000	2620	5820
Ethylbenzene	700	140	820	1000	560	540	524	416	440 J	922	1880
Total xylenes	10000	1000	4200	6200	3400	3200	3310	2650	1900 J	4680	10900
sec-Butylbenzene	NE	NE	NA	NA	<44	<44	13.8	10.4	<440	<5.00	<5.00
Dichlorodifluoromethane	1000	200	NA	NA	<54	<54	11.3	8.72	<540	10.2	<5.00
n-Butylbenzene	NE	NE	NA	NA	<58	<58	<5.0	<5.0	<580	20.1	<5.00
tert-Butylbenzene	NE	NE	NA	NA	<32	<32	<5.0	44.6	<320	<5.00	<5.00
Chlorobenzene	NE	NE	<2000	<100	<42	<42	<5.0	<5.0	<420	<5.00	<5.00
Isopropylbenzene	NE	NE	NA	NA	<30	<30	21.8	17.3	<300	27.1	31.3
p-Isopropyltoluene	NE	NE	NA	NA	<40	<40	25.4	21.6	<400	27.3	37.4
Methylene Chloride	5	0.5	<2000	260	320	290	290	244	<700	332	1220
Naphthalene	40	8	NA	NA	<140	<140	79.5	60.6	<1400	<800	94.9
n-Propylbenzene	NE	NE	NA	NA	44 J	<36	39.7	30.5	<360	50.1	55
1,2,4-Trimethylbenzene	480	96	470	NA	380	320	308	273	<480	491	1060
1,3,5-Trimethylbenzene	480	96	140	NA	100 J	82 J	99.8	81.1	<520	122	125
Tetrachloroethene	5	0.5	<2000	<100	<50	<50	21.1	19.5	<500	27.8	20.6
Trichloroethene	5	0.5	3900	1600	1300	1400	994	924	900 J	1350	121
cis 1,2-Dichloroethene	70	7	99000	160000	84000	79000	87900	72100	60000	72800	157000
trans 1,2-Dichloroethene	100	20	<2000	<100	<46	<46	<5.0	<5.0	<460	<5.00	56.3
1,1-Dichloroethene	7	0.7	<2000	470	300	290	366	282	<720	367	921
Vinyl chloride	0.2	0.02	6800	8700	3600	3200	6330	4800	5000	7920	9840
Chloroform	6	0.6	<2000	<100	<64	<64	35.2	26.9	<640	25	<1.00
Trichlorofluoromethane	NE	NE	<2000	<100	<46	<46	<5.00	<5.00	<460	9.14	<5.00
1,1,2-Trichloroethane	5	0.5	<2000	120	<110	<110	104	83.8	<1100	77.2	140
1,1,1-Trichloroethane	200	40	22000	35000	16000	15000	12600	9930	14000	22200	22700
1,1-Dichloroethane	850	85	3000	3600	2400	2300	2980	2420	1900 J	2750	10800
1,2-Dichloroethane	5	0.5	<2000	840	560	540	436	346	<780	479	1920
Chloroethane	400	80	<2000	100	<48	<48	192	168	<480	1400	822

Note:

¹ All concentrations given in units of ug/L. MW-14 was not sampled on this date due to the absence of a sufficient quantity of water in the well.

Key:

NE = Standard not established under Wisconsin Administrative Code (WAC) NR 140.

ES = Enforcement Standard (WAC NR 140.10).

PAL = Preventive Action Limit (WAC NR 140.10).

A = Contaminant level caused by laboratory artifact.

Bold value indicates exceedence of the PAL, and outlined block indicates exceedence of the ES.

TABLE 4

GROUND WATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS¹
 MARCH 1999 TO JANUARY 2003
 D-F INCORPORATED, ST. FRANCIS, WISCONSIN
 (PAGE 2 OF 4)

PARAMETER	ES	PAL	MW-4 3/11/99	MW-4 9/23/99	MW-4 (DUP) 9/23/99	MW-4 3/23/00	MW-4 10/9/00	MW-4 3/30/01	MW-4 4/16/02	MW-4 1/8/03
Benzene	5	0.5	7.4	8.7	8.8	6.1	8.87	4.3	6.04	5.01
Toluene	1000	200	1.4	<2.0	<2.0	0.66 J	<5.0	<1.1	<5.00	<5.00
Ethylbenzene	700	140	36	31	26	8.8	17.4	12	7.96	<5.00
Total xylenes	10000	1000	9.0	8.8	5.5	0.74 J	<5.0	11	13	<5.00
sec-Butylbenzene	NE	NE	NA	NA	NA	4.5	8.89	3.4 J	5.17	<5.00
Dichlorodifluoromethane	1000	200	NA	NA	NA	<0.27	<5.0	<1.4	<5.00	<5.00
n-Butylbenzene	NE	NE	NA	NA	NA	0.7 J	<5.0	<1.5	<5.00	<5.00
tert-Butylbenzene	NE	NE	NA	NA	NA	<0.16	<5.0	<0.8	<5.00	<5.00
Chlorobenzene	NE	NE	<2.0	<2.0	<2.0	1.8	<5.0	2.8 J	<5.00	<5.00
Isopropylbenzene	NE	NE	NA	NA	NA	8	13.1	6.6	9.56	<5.00
p-Isopropyltoluene	NE	NE	NA	NA	NA	<0.2	<5.0	<1	<5.00	<5.00
Methylene Chloride	5	0.5	<2.0	<2.0	<2.0	<0.35	<0.235	<1.8	<0.533	<0.533
Naphthalene	40	8	NA	NA	NA	<0.68	<8.0	<3.4	<8.00	<8.00
n-Propylbenzene	NE	NE	NA	NA	NA	1.4	8.67	5.3	7.09	<5.00
1,2,4-Trimethylbenzene	480	96	6.4	NA	NA	5.6	25.4	8.8	5.60	<5.00
1,3,5-Trimethylbenzene	480	96	1.3	NA	NA	<0.26	<5.0	<1.3	<5.00	<5.00
Tetrachloroethene	5	0.5	<2.0	<2.0	<2.0	<0.25	<0.5	<1.3	<0.360	<0.360
Trichloroethene	5	0.5	<2.0	5.4	4.9	5.8	4.54	5.2 J	6.02	3.45
cis 1,2-Dichloroethene	70	7	110	91	86	170	64	140	97.9	55.8
trans 1,2-Dichloroethene	100	20	2.2	<2.0	<2.0	2.3	<5.0	2.1 J	<5.00	<5.00
1,1-Dichloroethene	7	0.7	<2.0	<2.0	<2.0	0.79 J	<0.5	<1.8	<0.474	<0.474
Vinyl chloride	0.2	0.02	54	51	55	110	37.5	160	113	71.9
Chloroform	6	0.6	<2.0	<2.0	<2.0	<0.32	<0.196	<1.6	<0.431	<0.431
Trichlorofluoromethane	NE	NE	<2.0	<2.0	<2.0	<0.23	<5.00	<1.2	<5.00	<5.00
1,1,2-Trichloroethane	5	0.5	<2.0	<2.0	<2.0	<0.56	<0.153	<2.8	<0.298	<0.298
1,1,1-Trichloroethane	200	40	<2.0	<2.0	<2.0	2.7	<5.0	25	16.7	<5.00
1,1-Dichloroethane	850	85	67	54	57	72	37.3	70	79.4	58.6
1,2-Dichloroethane	5	0.5	5.3	4.8	5	6.2	<0.5	6.1 J	5.06	<0.207
Chloroethane	400	80	220	180	190	140	284	120	735	96.6

Note:

¹ All concentrations given in units of ug/L. MW-14 was not sampled on this date due to the absence of a sufficient quantity of water in the well.

Key:

NE = Standard not established under Wisconsin Administrative Code (WAC) NR 140.

ES = Enforcement Standard (WAC NR 140.10).

PAL = Preventive Action Limit (WAC NR 140.10).

A = Contaminant level caused by laboratory artifact.

Bold value indicates exceedence of the PAL, and outlined block indicates exceedence of the ES.

TABLE 4

GROUND WATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS¹

MARCH 1999 TO JANUARY 2003

D-F INCORPORATED, ST. FRANCIS, WISCONSIN

(PAGE 3 OF 4)

PARAMETER	ES	PAL	MW-7 3/11/99	MW-7 9/23/99	MW-7 3/23/00	MW-7 10/9/00	MW-7 3/30/01	MW-7 4/16/02	MW-7 (Dup) 4/16/02	MW-7 1/8/03	MW-7 (Dup) 1/8/03
Benzene	5	0.5	41	170	<25	34.3	<500	12.9	91	99.9	101
Toluene	1000	200	1800	7200	1900	1750	3400	918	904	5870	6650
Ethylbenzene	700	140	910	1100	1200	677	520 J	490	596	753	916
Total xylenes	10000	1000	<600	6500	7200	4460	3200 J	3340	3680	4470	5270
sec-Butylbenzene	NE	NE	NA	NA	27 J	29.9	<440	<5.00	<500	<5.00	15.4
Dichlorodifluoromethane	1000	200	NA	NA	<27	<5.0	<540	<5.00	<500	<5.00	<5.00
n-Butylbenzene	NE	NE	NA	NA	48 J	<5.0	<580	26.7	<500	17.4	<5.00
tert-Butylbenzene	NE	NE	NA	NA	<16	<5.0	<320	<5.00	<500	<5.00	<5.00
Chlorobenzene	NE	NE	<2000	<100	<21	<5.0	<420	<5.00	<500	<5.00	<5.00
Isopropylbenzene	NE	NE	NA	NA	70	43.4	<300	11.7	<500	26.6	30.8
p-Isopropyltoluene	NE	NE	NA	NA	57 J	57.9	<400	46.5	<500	53.4	48.7
Methylene Chloride	5	0.5	<2000	220	<35	11.8	<700	<0.533	<53.3	75.1	94.3
Naphthalene	40	8	NA	NA	140 J	150	<1400	<400	<800	38.1	107
n-Propylbenzene	NE	NE	NA	NA	130	89.7	<360	16.1	<500	48	59.4
1,2,4-Trimethylbenzene	480	96	1100	NA	1100	1070	<480	904	869	687	586
1,3,5-Trimethylbenzene	480	96	340	NA	270	218	<520	230	<500	209	200
Tetrachloroethene	5	0.5	<2000	110	38 J	2.81	<500	4.76	<36.0	25	38.4
Trichloroethene	5	0.5	2900	2000	<36	22	<720	83	<47.5	50.2	54.3
cis 1,2-Dichloroethene	70	7	26000	520000	29000	48000	140000	9820	13600	232000	225000
trans 1,2-Dichloroethene	100	20	<2000	1400	100	188	600 J	<5.00	<500	1030	1330
1,1-Dichloroethene	7	0.7	<2000	2000	270	334	780 J	142	<47.4	1020	1310
Vinyl chloride	0.2	0.02	2500	4000	3000	2930	2900	3200	3090	11600	9120
Chloroform	6	0.6	<2000	<100	<32	<5.0	<640	1.18	<43.1	<0.431	<0.431
Trichlorofluoromethane	NE	NE	<2000	<100	<23	<5.0	<460	<5.00	<500	10.3	12.7
1,1,2-Trichloroethane	5	0.5	<2000	130	<56	11.2	<1100	1.8	<29.8	65.8	75.9
1,1,1-Trichloroethane	200	40	4200	39000	3600	3580	14000	2410	2290	29500	33600
1,1-Dichloroethane	850	85	2100	9900	2200	2600	5100	1620	1500	8020	9280
1,2-Dichloroethane	5	0.5	<2000	750	65 J	85.4	<780	24	<20.7	457	574
Chloroethane	400	80	<2000	<100	<24	<5.0	<480	<5.00	<500	<5.0	<5.00

Note:

¹ All concentrations given in units of ug/L. MW-14 was not sampled on this date due to the absence of a sufficient quantity of water in the well.

Key:

NE = Standard not established under Wisconsin Administrative Code (WAC) NR 140.

ES = Enforcement Standard (WAC NR 140.10).

PAL = Preventive Action Limit (WAC NR 140.10).

A = Contaminant level caused by laboratory artifact.

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TABLE 4

GROUND WATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS¹
MARCH 1999 TO JANUARY 2003
D-F INCORPORATED, ST. FRANCIS, WISCONSIN
(PAGE 4 OF 4)

PARAMETER	ES	PAL	MW-15 3/11/99	MW-15 9/23/99	MW-15 3/23/00	MW-15 10/9/00	MW-15 3/30/01	MW-15 (Dup) 3/30/01	MW-15 4/16/02	MW-15 1/8/03
Benzene	5	0.5	17	<100	6.5 J	5.72	<25	<25	6.06	3.31
Toluene	1000	200	1000	310	340	313	250	270	257	261
Ethylbenzene	700	140	1900	1800	1900	1270	1900	2100	2100	2120
Total xylenes	10000	1000	11000	11000	10800	7520	11600	13600	10700	9290
sec-Butylbenzene	NE	NE	NA	NA	23	29.8	30 J	30 J	42.1	40.2
Dichlorodifluoromethane	1000	200	NA	NA	<2.7	<5.0	<27	<27	<5.00	<5.00
n-Butylbenzene	NE	NE	NA	NA	40	<5.0	<29	30 J	60.4	42.9
tert-Butylbenzene	NE	NE	NA	NA	1.7 J	<5.0	<16	<16	<5.00	<5.00
Chlorobenzene	NE	NE	<2.0	<100	2.2 J	<5.0	<21	<21	<5.00	<5.00
Isopropylbenzene	NE	NE	NA	NA	81	84.9	72	79	102	116
p-Isopropyltoluene	NE	NE	NA	NA	41	48.1	47 J	51 J	56.6	63
Methylene Chloride	5	0.5	<2.0	<100	<35	<0.235	<35	<35	<0.533	<0.533
Naphthalene	40	8	NA	NA	220	133	94 J	110 J	223	<125
n-Propylbenzene	NE	NE	NA	NA	150	159	140	160	215	236
1,2,4-Trimethylbenzene	480	96	1100	NA	1100	707	1100	1200	1380	1180
1,3,5-Trimethylbenzene	480	96	270	NA	240	259	270	300	<500	247
Tetrachloroethene	5	0.5	2.4	<100	<2.5	2.34	<25	<25	5.09	0.53
Trichloroethene	5	0.5	<2.0	<100	<3.6	<0.5	<36	<36	2.97	2.53
cis 1,2-Dichloroethene	70	7	1500	350	190	108	<100	<100	22.9	27.4
trans 1,2-Dichloroethene	100	20	27	<100	8.2	8.08	<23	<23	<5.00	<5.00
1,1-Dichloroethene	7	0.7	38	<100	8.5 J	9.85	<36	<36	0.94	0.53
Vinyl chloride	0.2	0.02	270	240	260	142	110	120	41.1	21
Chloroform	6	0.6	<2.0	<100	<3.2	<0.196	<32	<32	<4.31	<0.431
Trichlorofluoromethane	NE	NE	<2.0	<100	<2.3	<5.00	<23	<23	<5.00	<5.00
1,1,2-Trichloroethane	5	0.5	<2.0	<100	<5.6	<0.153	<56	<56	<0.298	<0.298
1,1,1-Trichloroethane	200	40	2400	520	490	198	300	340	180	37.9
1,1-Dichloroethane	850	85	760	1300	1300	1510	1900	2100	1540	188
1,2-Dichloroethane	5	0.5	4.6	<100	<3.9	<0.5	<39	<39	4.76	7.17
Chloroethane	400	80	25	130	60	58.5	230	260	3810	864

Note:

¹ All concentrations given in units of ug/L. MW-14 was not sampled on this date due to the absence of a sufficient quantity of water in the well.

Key:

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TABLE 5

SUMMARY OF MANN-KENDALL STATISTICS
D-F INCORPORATED
ST. FRANCIS, WISCONSIN

Constituent	MW-2	MW-4	MW-7	MW-15
Benzene	DECR	DECR	DECR	DECR
Toluene	US	n<4	US	DECR
Ethyl benzene	US	DECR	US	INCR
Xylenes	US	INCR	US	US
1,2,4-TMBZ	US	US	US	US
1,3,5-TMBZ	US	n<4	DECR	US
PCE	n<4	n<4	DECR	US
TCE	DECR	DECR	DECR	n<4
cis-1,2-DCE	US	DECR	US	DECR
trans-1,2-DCE	n<4	DECR	US	n<4
1,1-DCE	US	n<4	DECR	DECR
VC	US	US	INCR	DECR
1,1,2-TCA	US	n<4	DECR	n<4
TCA	US	n<4	DECR	DECR
1,2-DCA	UN	DECR	DECR	UN
1,1-DCA	US	US	US	INCR
CA	INCR	DECR	n<4	INCR

NOTE:

Follows criteria in WDNR's spreadsheet for determining Mann-Kendall Statistical Test, Form 4400-215 (2/2001).

KEY:

INCR = Increasing trend at 80% confidence level.

DECR = Decreasing trend at 80% confidence level.

US = Undetermined stable trend, CV<=1

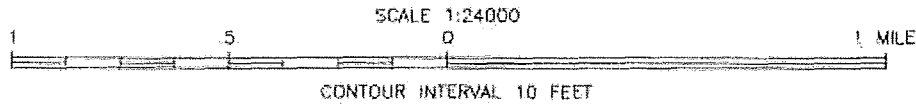
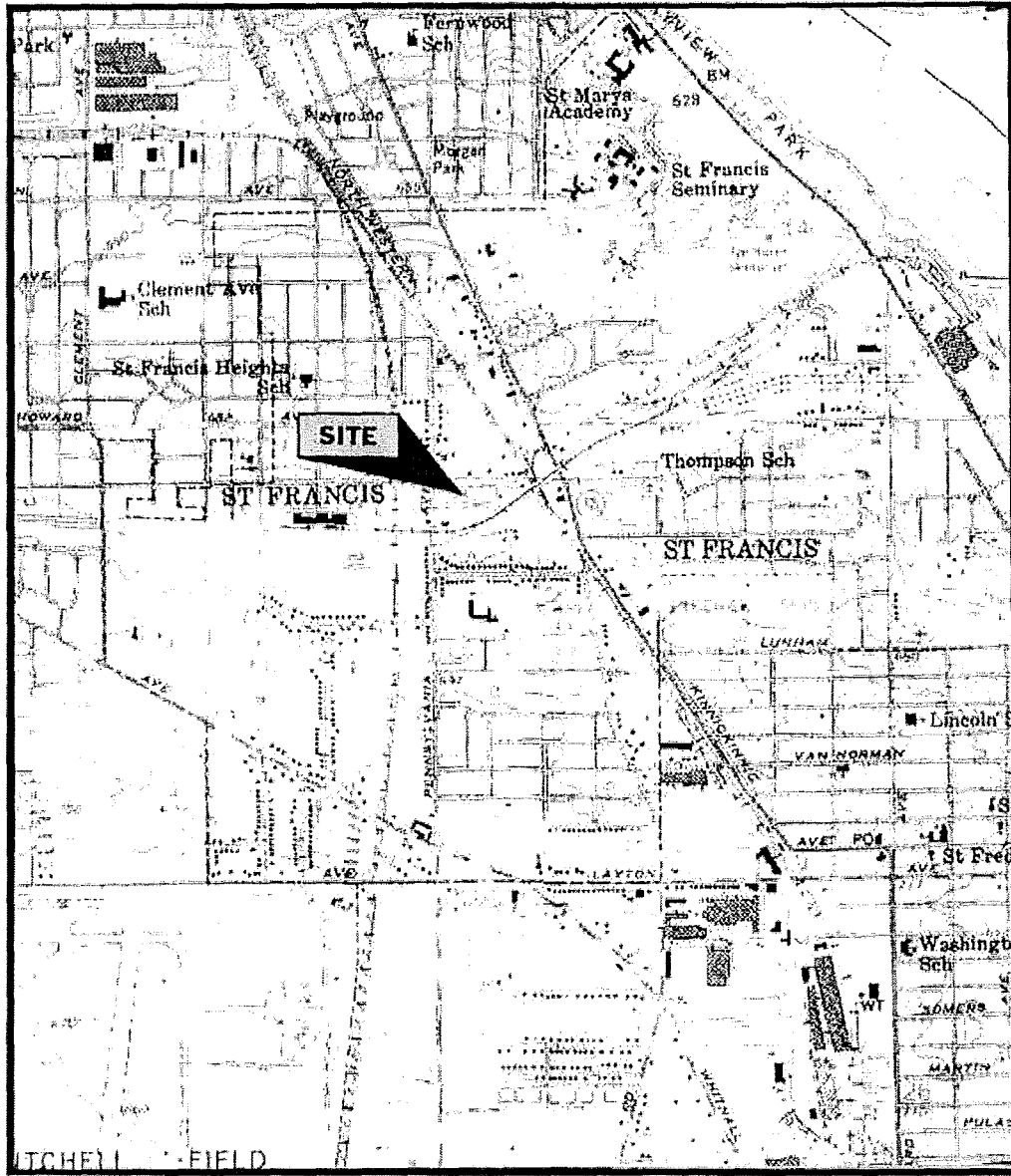
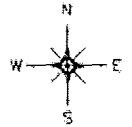
UN = Undetermined non-stable trend, CV>1

n<4 = Insufficient number of data points to calculate trend.

RED designation denotes change from previous sampling results analysis.

FIGURES

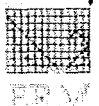
GREENDALE QUADRANGLE
 WISCONSIN
 7.5 MINUTE SERIES (TOPOGRAPHIC)
 1958
 PHOTOREVISED
 1971 & 1976



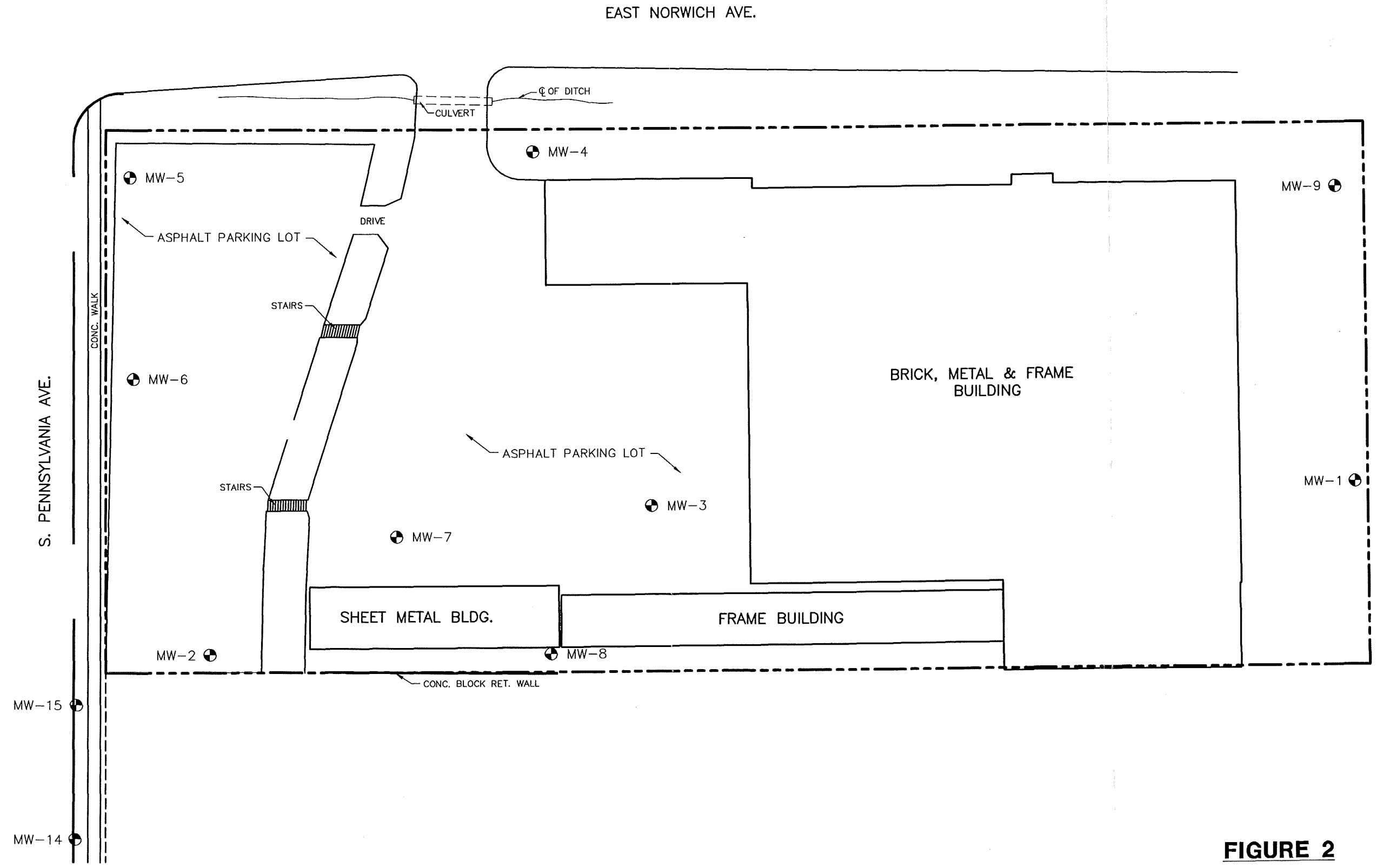
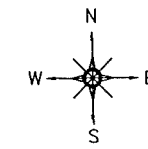
FILE: S:\CPFILES\ERM\PAK\96351\07\ACAD\FIST.DWG SEP 19 1997 2:07 PM

NAME	TOWNSHIP	6N
	RANGE	22E
	SECTION	22

FIGURE 1
 SITE LOCATION MAP
 D-F INCORPORATED
 ST. FRANCIS, WISCONSIN



FILE S:\CPFILES\ERM\PAC\96351\07\ACAD\FIG2.DWG SEP 29, 1997 11:34 AM
DRAWN NAM



SYMBOL LEGEND	
	MONITORING WELL
	PROPERTY LINE

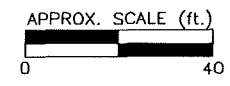


FIGURE 2
SITE FEATURES MAP
D-F INCORPORATED
ST. FRANCIS, WISCONSIN



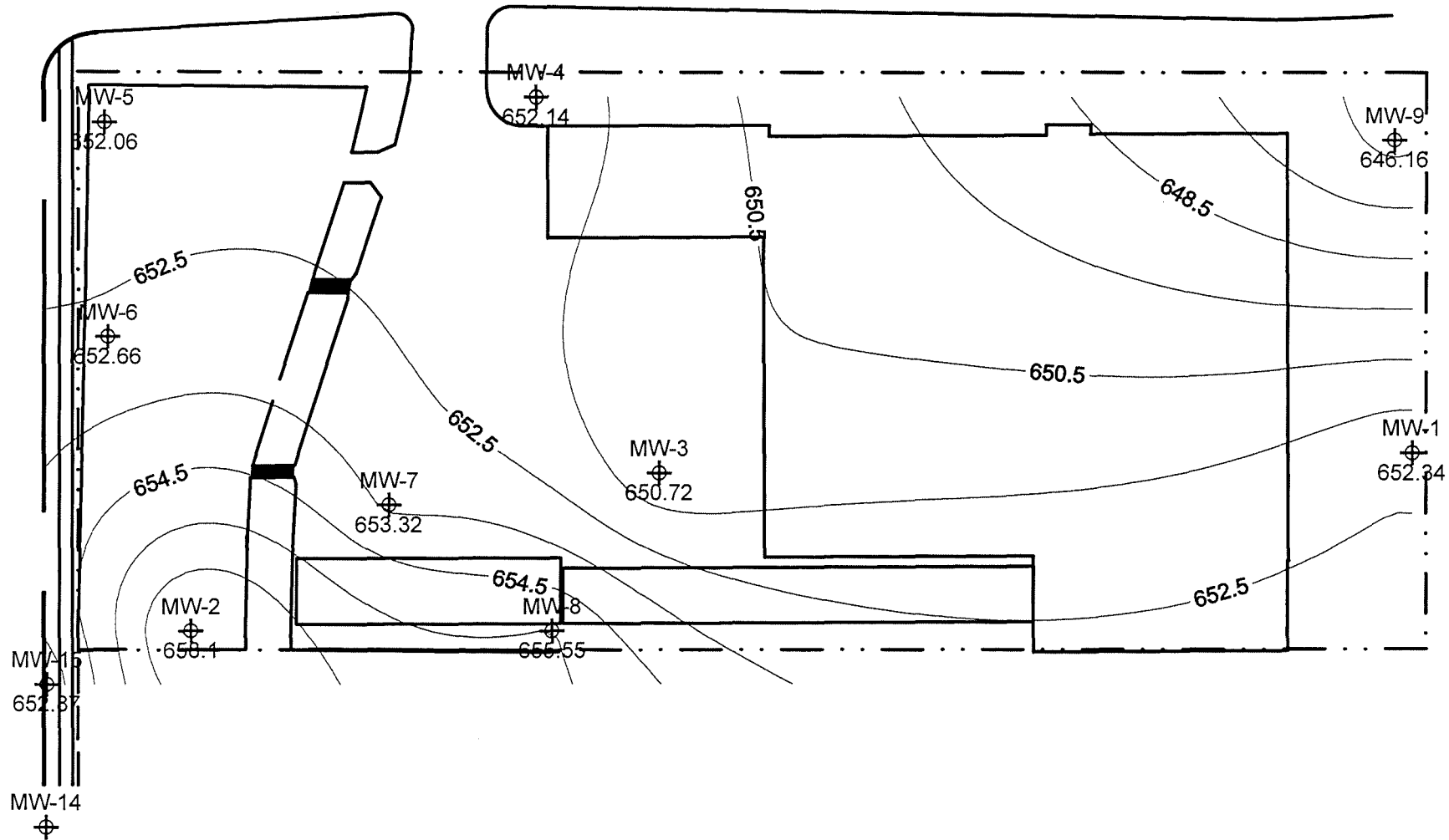
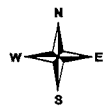


FIGURE 3

PIEZOMETRIC SURFACE OF JANUARY 8, 2003
 D-F INCORPORATED
 ST. FRANCIS, WISCONSIN

0 FT 60 FT



ERM

APPENDIX A
LABORATORY ANALYTICAL REPORTS

21 January 2003

Carl Stay
ERM - North Central, Inc. - WI
700 W Virginia Street Suite 601
Milwaukee, WI 53202
RE: D-F Incorporated

Enclosed are the results of analyses for samples received by the laboratory on 01/10/03. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Great Lakes Analytical



Andrea Stathas
Project Manager

RECEIVED
ENVIRONMENTAL RESOURCES
MANAGEMENT

JAN 30 2003

700 W. VIRGINIA ST. SUITE 601
MILWAUKEE, WI 53204

ERM - North Central, Inc. - WI
700 W Virginia Street Suite 601
Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-7	W301059-01	Water	01/08/03 11:35	01/10/03 11:00
MW-7 DUP	W301059-02	Water	01/08/03 11:35	01/10/03 11:00
MW-15	W301059-03	Water	01/08/03 11:50	01/10/03 11:00
MW-4B	W301059-04	Water	01/08/03 11:20	01/10/03 11:00
MW-4	W301059-05	Water	01/08/03 12:25	01/10/03 11:00
MW-2	W301059-06	Water	01/08/03 12:55	01/10/03 11:00
MW-2MS/MSD	W301059-07	Water	01/08/03 12:55	01/10/03 11:00
TB-1	W301059-08	Water	01/10/03 08:00	01/10/03 11:00



ERM - North Central, Inc. - WI
 700 W Virginia Street Suite 601
 Milwaukee WI, 53202


 Project: D-F Incorporated
 Project Number: n/a
 Project Manager: Carl Stay

 Reported:
 01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes	
MW-7 (W301059-01) Water									QC	
Sampled: 01/08/03 11:35			Received: 01/10/03 11:00							
Benzene	99.9	0.488	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B		
Bromobenzene	ND	5.00	"	"	"	"	"	"		
Bromodichloromethane	ND	0.255	"	"	"	"	"	"		
n-Butylbenzene	17.4	5.00	"	"	"	"	"	"		
sec-Butylbenzene	ND	5.00	"	"	"	"	"	"		
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"		
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"		
Chlorobenzene	ND	5.00	"	"	"	"	"	"		
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"		
Chloroethane	ND	5.00	"	"	"	"	"	"		
Chloroform	ND	0.431	"	"	"	"	"	"		
Chloromethane	ND	0.835	"	"	"	"	"	"		
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"		
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"		
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"		
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"		
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"		
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"		
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"		
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"		
1,1-Dichloroethane	8020	500	"	100	"	"	"	"		
1,2-Dichloroethane	457	20.7	"	"	"	"	"	"		
1,1-Dichloroethene	1020	47.4	"	"	"	"	"	"		
cis-1,2-Dichloroethene	232000	5000	"	1000	"	"	"	"		
trans-1,2-Dichloroethene	1030	500	"	100	"	"	"	"		
1,2-Dichloropropane	ND	0.305	"	1	"	"	"	"		
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"		
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"		
Di-isopropyl ether	ND	5.00	"	"	"	"	"	"		
Ethylbenzene	753	500	"	100	"	"	"	"		
Hexachlorobutadiene	ND	10.0	"	1	"	"	"	"		
Isopropylbenzene	26.6	5.00	"	"	"	"	"	"		
p-Isopropyltoluene	53.4	5.00	"	"	"	"	"	"		
Methylene chloride	75.1	0.533	"	"	"	"	"	"		
Methyl tert-butyl ether	ND	0.386	"	"	"	"	"	"		
Naphthalene	38.1	8.00	"	"	"	"	"	"		
n-Propylbenzene	48.0	5.00	"	"	"	"	"	"		
1,1,2,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"		
Tetrachloroethene	25.0	0.360	"	"	"	"	"	"		
Toluene	5870	500	"	100	"	"	"	"		
1,2,3-Trichlorobenzene	ND	10.0	"	1	"	"	"	"		
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"		

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager



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ERM - North Central, Inc. - WI
700 W Virginia Street Suite 601
Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 (W301059-01) Water Sampled: 01/08/03 11:35 Received: 01/10/03 11:00 QC									
1,1,1-Trichloroethane	29500	500	ug/l	100	3010202	01/14/03	01/14/03	EPA 8260B	
1,1,2-Trichloroethane	65.8	0.298	"	1	"	"	"	"	
Trichloroethene	50.2	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	10.3	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	687	500	"	100	"	"	"	"	
1,3,5-Trimethylbenzene	209	5.00	"	1	"	"	"	"	
Vinyl chloride	11600	582	"	1000	"	"	"	"	
Total Xylenes	4470	500	"	100	"	"	"	"	
Surrogate: Dibromofluoromethane		100 %		82-116	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		122 %		86.2-117	"	"	"	"	H
Surrogate: Toluene-d8		93.4 %		87-118	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.8 %		72-120	"	"	"	"	
MW-7 DUP (W301059-02) Water Sampled: 01/08/03 11:35 Received: 01/10/03 11:00 QC									
Benzene	101	0.488	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Bromobenzene	ND	5.00	"	"	"	"	"	"	
Bromodichloromethane	ND	0.255	"	"	"	"	"	"	
n-Butylbenzene	ND	5.00	"	"	"	"	"	"	
sec-Butylbenzene	15.4	5.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"	
Chlorobenzene	ND	5.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	ND	5.00	"	"	"	"	"	"	
Chloroform	ND	0.431	"	"	"	"	"	"	
Chloromethane	ND	0.835	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"	
1,1-Dichloroethane	9280	500	"	100	"	"	"	"	
1,2-Dichloroethane	574	20.7	"	"	"	"	"	"	
1,1-Dichloroethene	1310	47.4	"	"	"	"	"	"	
cis-1,2-Dichloroethene	225000	5000	"	1000	"	"	"	"	
trans-1,2-Dichloroethene	1330	500	"	100	"	"	"	"	
1,2-Dichloropropane	ND	0.305	"	1	"	"	"	"	
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager



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ERM - North Central, Inc. - WI
700 W Virginia Street Suite 601
Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-7 DUP (W301059-02) Water Sampled: 01/08/03 11:35 Received: 01/10/03 11:00 QC									
Di-isopropyl ether	ND	5.00	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Ethylbenzene	916	500	"	100	"	"	"	"	
Hexachlorobutadiene	ND	10.0	"	1	"	"	"	"	
Isopropylbenzene	30.8	5.00	"	"	"	"	"	"	
p-Isopropyltoluene	48.7	5.00	"	"	"	"	"	"	
Methylene chloride	94.3	0.533	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.386	"	"	"	"	"	"	
Naphthalene	107	8.00	"	"	"	"	"	"	
n-Propylbenzene	59.4	5.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"	
Tetrachloroethene	38.4	0.360	"	"	"	"	"	"	
Toluene	6650	500	"	100	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10.0	"	1	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	33600	5000	"	1000	"	"	"	"	
1,1,2-Trichloroethane	75.9	0.298	"	1	"	"	"	"	
Trichloroethene	54.3	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	12.7	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	586	500	"	100	"	"	"	"	
1,3,5-Trimethylbenzene	200	5.00	"	1	"	"	"	"	
Vinyl chloride	9120	582	"	1000	"	"	"	"	
Total Xylenes	5270	500	"	100	"	"	"	"	
Surrogate: Dibromofluoromethane		104 %		82-116	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		138 %		86.2-117	"	"	"	"	H
Surrogate: Toluene-d8		96.4 %		87-118	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.4 %		72-120	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

ERM - North Central, Inc. - WI
 700 W Virginia Street Suite 601
 Milwaukee WI, 53202

 Project: D-F Incorporated
 Project Number: n/a
 Project Manager: Carl Stay

 Reported:
 01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-15 (W301059-03) Water Sampled: 01/08/03 11:50 Received: 01/10/03 11:00									
Benzene	3.31	0.488	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Bromobenzene	ND	5.00	"	"	"	"	"	"	
Bromodichloromethane	ND	0.255	"	"	"	"	"	"	
n-Butylbenzene	42.9	5.00	"	"	"	"	"	"	
sec-Butylbenzene	40.2	5.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"	
Chlorobenzene	ND	5.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	864	250	"	50	"	"	"	"	
Chloroform	ND	0.431	"	1	"	"	"	"	
Chloromethane	ND	0.835	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"	
1,1-Dichloroethane	188	5.00	"	"	"	"	"	"	
1,2-Dichloroethane	7.17	0.207	"	"	"	"	"	"	
1,1-Dichloroethene	0.530	0.474	"	"	"	"	"	"	
cis-1,2-Dichloroethene	27.4	5.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.305	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	2120	250	"	50	"	"	"	"	
Hexachlorobutadiene	ND	10.0	"	1	"	"	"	"	
Isopropylbenzene	116	5.00	"	"	"	"	"	"	
p-Isopropyltoluene	63.0	5.00	"	"	"	"	"	"	
Methylene chloride	ND	0.533	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.386	"	"	"	"	"	"	
Naphthalene	ND	125	"	50	"	"	"	"	
n-Propylbenzene	236	5.00	"	1	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"	
Tetrachloroethene	0.530	0.360	"	"	"	"	"	"	
Toluene	261	5.00	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	

QC

Great Lakes Analytical--Oak Creek

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Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-15 (W301059-03) Water Sampled: 01/08/03 11:50 Received: 01/10/03 11:00 QC									
1,1,1-Trichloroethane	37.9	5.00	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.298	"	"	"	"	"	"	
Trichloroethene	2.53	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	1180	250	"	50	"	"	"	"	
1,3,5-Trimethylbenzene	247	245	"	"	"	"	"	"	
Vinyl chloride	21.0	0.582	"	1	"	"	"	"	
Total Xylenes	9290	250	"	50	"	"	"	"	
Surrogate: Dibromofluoromethane		107 %		82-116	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		120 %		86.2-117	"	"	"	"	H
Surrogate: Toluene-d8		91.8 %		87-118	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		72-120	"	"	"	"	

MW-4B (W301059-04) Water Sampled: 01/08/03 11:20 Received: 01/10/03 11:00 QC									
Benzene	ND	0.488	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Bromobenzene	ND	5.00	"	"	"	"	"	"	
Bromodichloromethane	ND	0.255	"	"	"	"	"	"	
n-Butylbenzene	ND	5.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"	
Chlorobenzene	ND	5.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	ND	5.00	"	"	"	"	"	"	
Chloroform	ND	0.431	"	"	"	"	"	"	
Chloromethane	ND	0.835	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.207	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.474	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.305	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4B (W301059-04) Water Sampled: 01/08/03 11:20 Received: 01/10/03 11:00									
Di-isopropyl ether	ND	5.00	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Ethylbenzene	ND	5.00	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.00	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.00	"	"	"	"	"	"	
Methylene chloride	ND	0.533	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.386	"	"	"	"	"	"	
Naphthalene	ND	8.00	"	"	"	"	"	"	
n-Propylbenzene	ND	5.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"	
Tetrachloroethene	ND	0.360	"	"	"	"	"	"	
Toluene	ND	5.00	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.00	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.298	"	"	"	"	"	"	
Trichloroethene	ND	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.00	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.00	"	"	"	"	"	"	
Vinyl chloride	ND	0.582	"	"	"	"	"	"	
Total Xylenes	ND	5.00	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		106 %		82-116	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		119 %		86.2-117	"	"	"	"	H
<i>Surrogate: Toluene-d8</i>		92.8 %		87-118	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.0 %		72-120	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W301059-05) Water Sampled: 01/08/03 12:25 Received: 01/10/03 11:00 QC									
Benzene	5.01	0.488	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Bromobenzene	ND	5.00	"	"	"	"	"	"	
Bromodichloromethane	ND	0.255	"	"	"	"	"	"	
n-Butylbenzene	ND	5.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"	
Chlorobenzene	ND	5.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	96.6	5.00	"	"	"	"	"	"	
Chloroform	ND	0.431	"	"	"	"	"	"	
Chloromethane	ND	0.835	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"	
1,1-Dichloroethane	58.6	5.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.207	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.474	"	"	"	"	"	"	
cis-1,2-Dichloroethene	55.8	5.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.305	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	ND	5.00	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.00	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.00	"	"	"	"	"	"	
Methylene chloride	ND	0.533	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.386	"	"	"	"	"	"	
Naphthalene	ND	8.00	"	"	"	"	"	"	
n-Propylbenzene	ND	5.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"	
Tetrachloroethene	ND	0.360	"	"	"	"	"	"	
Toluene	ND	5.00	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

ERM - North Central, Inc. - WI
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 Milwaukee WI, 53202

 Project: D-F Incorporated
 Project Number: n/a
 Project Manager: Carl Stay

 Reported:
 01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W301059-05) Water Sampled: 01/08/03 12:25 Received: 01/10/03 11:00 QC									
1,1,1-Trichloroethane	ND	5.00	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.298	"	"	"	"	"	"	
Trichloroethene	3.45	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.00	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.00	"	"	"	"	"	"	
Vinyl chloride	71.9	0.582	"	"	"	"	"	"	
Total Xylenes	ND	5.00	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		<i>103 %</i>		<i>82-116</i>	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>121 %</i>		<i>86.2-117</i>	"	"	"	"	H
<i>Surrogate: Toluene-d8</i>		<i>91.8 %</i>		<i>87-118</i>	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.0 %</i>		<i>72-120</i>	"	"	"	"	
MW-2 (W301059-06) Water Sampled: 01/08/03 12:55 Received: 01/10/03 11:00 QC									
Benzene	30.5	0.488	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Bromobenzene	ND	5.00	"	"	"	"	"	"	
Bromodichloromethane	ND	0.255	"	"	"	"	"	"	
n-Butylbenzene	ND	5.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"	
Chlorobenzene	ND	5.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	822	500	"	100	"	"	"	"	
Chloroform	ND	1.00	"	1	"	"	"	"	
Chloromethane	ND	0.835	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"	
1,1-Dichloroethane	10800	500	"	100	"	"	"	"	
1,2-Dichloroethane	1920	20.7	"	"	"	"	"	"	
1,1-Dichloroethene	921	47.4	"	"	"	"	"	"	
cis-1,2-Dichloroethene	157000	5000	"	1000	"	"	"	"	
trans-1,2-Dichloroethene	56.3	5.00	"	1	"	"	"	"	
1,2-Dichloropropane	ND	0.305	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager



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ERM - North Central, Inc. - WI 700 W Virginia Street Suite 601 Milwaukee WI, 53202	Project: D-F Incorporated Project Number: n/a Project Manager: Carl Stay	Reported: 01/21/03 17:45
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WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (W301059-06) Water Sampled: 01/08/03 12:55 Received: 01/10/03 11:00									
Di-isopropyl ether	ND	5.00	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Ethylbenzene	1880	500	"	100	"	"	"	"	
Hexachlorobutadiene	ND	10.0	"	1	"	"	"	"	
Isopropylbenzene	31.3	5.00	"	"	"	"	"	"	
p-Isopropyltoluene	37.4	5.00	"	"	"	"	"	"	
Methylene chloride	1220	53.3	"	100	"	"	"	"	
Methyl tert-butyl ether	ND	0.386	"	1	"	"	"	"	
Naphthalene	94.9	8.00	"	"	"	"	"	"	
n-Propylbenzene	55.0	5.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"	
Tetrachloroethene	20.6	0.360	"	"	"	"	"	"	
Toluene	5820	500	"	100	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10.0	"	1	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	22700	5000	"	1000	"	"	"	"	
1,1,2-Trichloroethane	140	0.298	"	1	"	"	"	"	
Trichloroethene	121	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	1060	500	"	100	"	"	"	"	
1,3,5-Trimethylbenzene	125	5.00	"	1	"	"	"	"	
Vinyl chloride	9840	582	"	1000	"	"	"	"	
Total Xylenes	10900	500	"	100	"	"	"	"	
Surrogate: Dibromofluoromethane		92.0 %		82-116	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		127 %		86.2-117	"	"	"	"	H
Surrogate: Toluene-d8		96.6 %		87-118	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %		72-120	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager



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Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2MS/MSD (W301059-07) Water Sampled: 01/08/03 12:55 Received: 01/10/03 11:00 QC									
Benzene	27.2	0.488	ug/l	1	3010202	01/14/03	01/14/03	EPA 8260B	
Bromobenzene	ND	5.00	"	"	"	"	"	"	
Bromodichloromethane	ND	0.255	"	"	"	"	"	"	
n-Butylbenzene	ND	5.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"	
Chlorobenzene	ND	5.00	"	"	"	"	"	"	
Chlorodibromomethane	ND	2.00	"	"	"	"	"	"	
Chloroethane	415	250	"	100	"	"	"	"	
Chloroform	ND	0.431	"	1	"	"	"	"	
Chloromethane	ND	0.835	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"	
1,1-Dichloroethane	5080	500	"	100	"	"	"	"	
1,2-Dichloroethane	963	20.7	"	"	"	"	"	"	
1,1-Dichloroethene	468	47.4	"	"	"	"	"	"	
cis-1,2-Dichloroethene	123000	5000	"	1000	"	"	"	"	
trans-1,2-Dichloroethene	55.5	5.00	"	1	"	"	"	"	
1,2-Dichloropropane	ND	0.305	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	925	500	"	100	"	"	"	"	
Hexachlorobutadiene	ND	10.0	"	1	"	"	"	"	
Isopropylbenzene	32.5	5.00	"	"	"	"	"	"	
p-Isopropyltoluene	39.9	5.00	"	"	"	"	"	"	
Methylene chloride	672	53.3	"	100	"	"	"	"	
Methyl tert-butyl ether	ND	0.386	"	1	"	"	"	"	
Naphthalene	85.2	8.00	"	"	"	"	"	"	
n-Propylbenzene	60.2	5.00	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"	
Tetrachloroethene	22.3	0.360	"	"	"	"	"	"	
Toluene	2980	500	"	100	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10.0	"	1	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2MS/MSD (W301059-07) Water									QC
Sampled: 01/08/03 12:55 Received: 01/10/03 11:00									
1,1,1-Trichloroethane	25500	500	ug/l	100	3010202	01/14/03	01/14/03	EPA 8260B	
1,1,2-Trichloroethane	129	0.298	"	1	"	"	"	"	
Trichloroethene	139	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	505	500	"	100	"	"	"	"	
1,3,5-Trimethylbenzene	136	5.00	"	1	"	"	"	"	
Vinyl chloride	4990	582	"	1000	"	"	"	"	
Total Xylenes	5400	500	"	100	"	"	"	"	
Surrogate: Dibromofluoromethane		95.8 %	82-116		"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		124 %	86.2-117		"	"	"	"	H
Surrogate: Toluene-d8		92.6 %	87-118		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %	72-120		"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

ERM - North Central, Inc. - WI
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 Milwaukee WI, 53202

 Project: D-F Incorporated
 Project Number: n/a
 Project Manager: Carl Stay

 Reported:
 01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B (Blank Analysis)
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-1 (W301059-08) Water Sampled: 01/10/03 08:00 Received: 01/10/03 11:00									QC
Benzene	ND	0.488	ug/l	1	3010202	01/14/03	01/17/03	EPA 8260B	
Bromobenzene	ND	5.00	"	"	"	"	"	"	
Bromodichloromethane	ND	0.255	"	"	"	"	"	"	
n-Butylbenzene	ND	5.00	"	"	"	"	"	"	
sec-Butylbenzene	ND	5.00	"	"	"	"	"	"	
tert-Butylbenzene	ND	5.00	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.484	"	"	"	"	"	"	
Chlorobenzene	ND	5.00	"	"	"	"	"	"	
Chloroethane	ND	5.00	"	"	"	"	"	"	
Chloroform	ND	0.431	"	"	"	"	"	"	
Chloromethane	ND	0.835	"	"	"	"	"	"	
2-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
4-Chlorotoluene	ND	5.00	"	"	"	"	"	"	
Dibromochloromethane	ND	5.00	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.626	"	"	"	"	"	"	
1,2-Dibromoethane	ND	0.235	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	5.00	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	5.00	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.00	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.207	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.474	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.00	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.00	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.305	"	"	"	"	"	"	
1,3-Dichloropropane	ND	5.00	"	"	"	"	"	"	
2,2-Dichloropropane	ND	5.00	"	"	"	"	"	"	
Di-isopropyl ether	ND	5.00	"	"	"	"	"	"	
Ethylbenzene	ND	5.00	"	"	"	"	"	"	
Hexachlorobutadiene	ND	10.0	"	"	"	"	"	"	
Isopropylbenzene	ND	5.00	"	"	"	"	"	"	
p-Isopropyltoluene	ND	5.00	"	"	"	"	"	"	
Methylene chloride	ND	0.533	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.386	"	"	"	"	"	"	
Naphthalene	ND	8.00	"	"	"	"	"	"	
n-Propylbenzene	ND	5.00	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.478	"	"	"	"	"	"	
Tetrachloroethene	ND	0.360	"	"	"	"	"	"	
Toluene	ND	5.00	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	10.0	"	"	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B (Blank Analysis)
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-1 (W301059-08) Water Sampled: 01/10/03 08:00 Received: 01/10/03 11:00 QC									
1,1,1-Trichloroethane	ND	5.00	ug/l	1	3010202	01/14/03	01/17/03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.298	"	"	"	"	"	"	
Trichloroethene	ND	0.475	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.00	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.00	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.00	"	"	"	"	"	"	
Vinyl chloride	ND	0.582	"	"	"	"	"	"	
Total Xylenes	ND	5.00	"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		112 %		82-116	"	"	"	"	
<i>Surrogate: 1,2-Dichloroethane-d4</i>		119 %		86.2-117	"	"	"	"	H
<i>Surrogate: Toluene-d8</i>		92.8 %		87-118	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.2 %		72-120	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

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 Project: D-F Incorporated
 Project Number: n/a
 Project Manager: Carl Stay

Reported:
 01/21/03 17:45

**WDNR Volatile Organic Compounds by Method 8260B - Quality Control
 Great Lakes Analytical--Buffalo Grove**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3010202 - EPA 5030B (P/T)
Blank (3010202-BLK1)

Prepared & Analyzed: 01/14/03

Benzene	ND	0.488	ug/l							
Bromobenzene	ND	5.00	"							
Bromodichloromethane	ND	0.255	"							
n-Butylbenzene	ND	5.00	"							
sec-Butylbenzene	ND	5.00	"							
tert-Butylbenzene	ND	5.00	"							
Carbon tetrachloride	ND	0.484	"							
Chlorobenzene	ND	5.00	"							
Chlorodibromomethane	ND	2.00	"							
Chloroethane	ND	5.00	"							
Chloroform	ND	0.431	"							
Chloromethane	ND	0.835	"							
2-Chlorotoluene	ND	5.00	"							
4-Chlorotoluene	ND	5.00	"							
1,2-Dibromo-3-chloropropane	ND	0.626	"							
1,2-Dibromoethane	ND	0.235	"							
1,2-Dichlorobenzene	ND	5.00	"							
1,3-Dichlorobenzene	ND	5.00	"							
1,4-Dichlorobenzene	ND	5.00	"							
Dichlorodifluoromethane	ND	5.00	"							
1,1-Dichloroethane	ND	5.00	"							
1,2-Dichloroethane	ND	0.207	"							
1,1-Dichloroethene	ND	0.474	"							
cis-1,2-Dichloroethene	ND	5.00	"							
trans-1,2-Dichloroethene	ND	5.00	"							
1,2-Dichloropropane	ND	0.305	"							
1,3-Dichloropropane	ND	5.00	"							
2,2-Dichloropropane	ND	5.00	"							
Di-isopropyl ether	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Hexachlorobutadiene	ND	10.0	"							
Isopropylbenzene	ND	5.00	"							
p-Isopropyltoluene	ND	5.00	"							
Methylene chloride	ND	0.533	"							
Methyl tert-butyl ether	ND	0.386	"							

Great Lakes Analytical--Oak Creek

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Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B - Quality Control
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3010202 - EPA 5030B (P/T)

Blank (3010202-BLK1)

Prepared & Analyzed: 01/14/03

Naphthalene	ND	8.00	ug/l							
n-Propylbenzene	ND	5.00	"							
1,1,2,2-Tetrachloroethane	ND	0.478	"							
Tetrachloroethene	ND	0.360	"							
Toluene	ND	5.00	"							
1,2,3-Trichlorobenzene	ND	10.0	"							
1,2,4-Trichlorobenzene	ND	10.0	"							
1,1,1-Trichloroethane	ND	5.00	"							
1,1,2-Trichloroethane	ND	0.298	"							
Trichloroethene	ND	0.475	"							
Trichlorofluoromethane	ND	5.00	"							
1,2,4-Trimethylbenzene	ND	5.00	"							
1,3,5-Trimethylbenzene	ND	5.00	"							
Vinyl chloride	ND	0.582	"							
Total Xylenes	ND	5.00	"							
<hr/>										
Surrogate: Dibromofluoromethane	54.0		"	50.0		108	82-116			
Surrogate: 1,2-Dichloroethane-d4	62.8		"	50.0		126	86.2-117			H
Surrogate: Toluene-d8	45.3		"	50.0		90.6	87-118			
Surrogate: 4-Bromofluorobenzene	48.2		"	50.0		96.4	72-120			

LCS (3010202-BS1)

Prepared & Analyzed: 01/14/03

Benzene	37.3	0.488	ug/l	50.0		74.6	83.1-124			L
Bromobenzene	53.0	5.00	"	50.0		106	82.4-126			
Bromodichloromethane	60.7	0.255	"	50.0		121	88.8-135			
n-Butylbenzene	53.5	5.00	"	50.0		107	79.8-121			
sec-Butylbenzene	51.0	5.00	"	50.0		102	76.7-128			
tert-Butylbenzene	52.0	5.00	"	50.0		104	80.4-128			
Carbon tetrachloride	57.6	0.484	"	50.0		115	64.8-133			
Chlorobenzene	49.7	5.00	"	50.0		99.4	87.8-121			
Chlorodibromomethane	49.2	2.00	"	50.0		98.4	89-127			
Chloroethane	48.8	5.00	"	50.0		97.6	10-225			
Chloroform	53.6	0.431	"	50.0		107	76.9-137			
Chloromethane	49.1	0.835	"	50.0		98.2	41.9-158			
2-Chlorotoluene	52.3	5.00	"	50.0		105	91.1-114			
4-Chlorotoluene	52.9	5.00	"	50.0		106	90.5-129			
1,2-Dibromo-3-chloropropane	63.8	0.626	"	50.0		128	37.6-169			

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

ERM - North Central, Inc. - WI
 700 W Virginia Street Suite 601
 Milwaukee WI, 53202

 Project: D-F Incorporated
 Project Number: n/a
 Project Manager: Carl Stay

 Reported:
 01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B - Quality Control
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3010202 - EPA 5030B (P/T)										
LCS (3010202-BS1)										
Prepared & Analyzed: 01/14/03										
1,2-Dibromoethane	48.9	0.235	ug/l	50.0		97.8	78.6-131			
1,2-Dichlorobenzene	50.4	5.00	"	50.0		101	57.2-147			
1,3-Dichlorobenzene	49.5	5.00	"	50.0		99.0	53.8-147			
1,4-Dichlorobenzene	48.5	5.00	"	50.0		97.0	52.8-146			
Dichlorodifluoromethane	47.9	5.00	"	50.0		95.8	19.7-151			
1,1-Dichloroethane	52.2	5.00	"	50.0		104	66.8-133			
1,2-Dichloroethane	54.9	0.207	"	50.0		110	77.3-144			
1,1-Dichloroethene	41.6	0.474	"	50.0		83.2	63-127			
cis-1,2-Dichloroethene	49.6	5.00	"	50.0		99.2	79.2-133			
trans-1,2-Dichloroethene	46.8	5.00	"	50.0		93.6	71.8-126			
1,2-Dichloropropane	49.6	0.305	"	50.0		99.2	85.8-127			
1,3-Dichloropropane	50.2	5.00	"	50.0		100	80.8-132			
2,2-Dichloropropane	58.0	5.00	"	50.0		116	9.53-188			
Di-isopropyl ether	51.7	5.00	"	50.0		103	35.1-151			
Ethylbenzene	50.7	5.00	"	50.0		101	80.3-127			
Hexachlorobutadiene	62.8	10.0	"	50.0		126	43.7-165			
Isopropylbenzene	52.8	5.00	"	50.0		106	80.5-128			
p-Isopropyltoluene	52.4	5.00	"	50.0		105	85.3-122			
Methylene chloride	47.3	0.533	"	50.0		94.6	52.8-143			
Methyl tert-butyl ether	58.0	0.386	"	50.0		116	70.8-141			
Naphthalene	70.4	8.00	"	50.0		141	45.4-160			
n-Propylbenzene	52.9	5.00	"	50.0		106	84.4-126			
1,1,1,2-Tetrachloroethane	52.1	0.478	"	50.0		104	26.2-185			
Tetrachloroethene	48.0	0.360	"	50.0		96.0	64.8-130			
Toluene	44.5	5.00	"	50.0		89.0	81.4-128			
1,2,3-Trichlorobenzene	61.0	10.0	"	50.0		122	44.2-157			
1,2,4-Trichlorobenzene	56.1	10.0	"	50.0		112	45-160			
1,1,1-Trichloroethane	54.6	5.00	"	50.0		109	66.4-136			
1,1,2-Trichloroethane	47.8	0.298	"	50.0		95.6	90.4-133			
Trichloroethene	50.5	0.475	"	50.0		101	52.9-150			
Trichlorofluoromethane	63.1	5.00	"	50.0		126	10-236			
1,2,4-Trimethylbenzene	52.8	5.00	"	50.0		106	54.9-158			
1,3,5-Trimethylbenzene	53.7	5.00	"	50.0		107	74.8-143			
Vinyl chloride	59.2	0.582	"	50.0		118	59.7-131			
Total Xylenes	150	5.00	"	150		100	83.7-127			

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager



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ERM - North Central, Inc. - WI 700 W Virginia Street Suite 601 Milwaukee WI, 53202	Project: D-F Incorporated Project Number: n/a Project Manager: Carl Stay	Reported: 01/21/03 17:45
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WDNR Volatile Organic Compounds by Method 8260B - Quality Control
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3010202 - EPA 5030B (P/T)

LCS (3010202-BS1) Prepared & Analyzed: 01/14/03

Surrogate: Dibromofluoromethane	50.9		ug/l	50.0		102	82-116			
Surrogate: 1,2-Dichloroethane-d4	57.1		"	50.0		114	86.2-117			
Surrogate: Toluene-d8	45.0		"	50.0		90.0	87-118			
Surrogate: 4-Bromofluorobenzene	49.5		"	50.0		99.0	72-120			

Matrix Spike (3010202-MS1) Source: W301059-07 Prepared: 01/14/03 Analyzed: 01/17/03

Benzene	91.0	48.8	ug/l	50.0	ND	128	61.9-134			
Bromobenzene	ND	500	"	50.0	ND	192	59.6-138			H
Bromodichloromethane	59.0	25.5	"	50.0	ND	118	79.6-140			
n-Butylbenzene	579	500	"	50.0	ND	NR	23.7-137			H
sec-Butylbenzene	ND	500	"	50.0	ND	202	30.1-130			H
tert-Butylbenzene	ND	500	"	50.0	ND	126	38.5-130			
Carbon tetrachloride	52.0	48.4	"	50.0	ND	104	29.6-132			
Chlorobenzene	ND	500	"	50.0	ND	106	71.4-124			
Chlorodibromomethane	651	200	"	50.0	ND	NR	84-129			H
Chloroethane	823	500	"	50.0	ND	816	10-258			H
Chloroform	91.0	43.1	"	50.0	ND	182	65.7-139			H
Chloromethane	121	83.5	"	50.0	ND	242	42.1-134			H
2-Chlorotoluene	ND	500	"	50.0	ND	274	51.8-141			H
4-Chlorotoluene	ND	500	"	50.0	ND	232	59.3-137			H
1,2-Dibromo-3-chloropropane	529	62.6	"	50.0	ND	NR	76.2-160			H
1,2-Dibromoethane	ND	23.5	"	50.0	ND		70.8-144			L
1,2-Dichlorobenzene	ND	500	"	50.0	ND	112	65.8-133			
1,3-Dichlorobenzene	ND	500	"	50.0	ND	134	57.3-133			H
1,4-Dichlorobenzene	ND	500	"	50.0	ND	114	61.4-129			
Dichlorodifluoromethane	ND	500	"	50.0	ND	177	10-132			H
1,1-Dichloroethane	4530	500	"	50.0	5080	NR	54.3-133			L
1,2-Dichloroethane	789	20.7	"	50.0	963	NR	78.2-143			L
1,1-Dichloroethene	443	47.4	"	50.0	468	NR	22.8-139			L
cis-1,2-Dichloroethene	137000	5000	"	50.0	123000	NR	64-139			H
trans-1,2-Dichloroethene	ND	500	"	50.0	ND	NR	39.8-136			L
1,2-Dichloropropane	66.0	30.5	"	50.0	ND	132	75.2-135			
1,3-Dichloropropane	ND	500	"	50.0	ND		73.5-142			L
2,2-Dichloropropane	ND	500	"	50.0	ND		10-153			L
Di-isopropyl ether	ND	500	"	50.0	ND		25.3-171			L
Ethylbenzene	949	500	"	50.0	925	48.0	64.7-124			L

Great Lakes Analytical--Oak Creek *The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Andrea Stathas

Andrea Stathas, Project Manager



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Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

**WDNR Volatile Organic Compounds by Method 8260B - Quality Control
Great Lakes Analytical--Buffalo Grove**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3010202 - EPA 5030B (P/T)

Matrix Spike (3010202-MS1)	Source: W301059-07			Prepared: 01/14/03		Analyzed: 01/17/03				
Hexachlorobutadiene	ND	1000	ug/l	50.0	ND	NR	12-143			H
Isopropylbenzene	ND	500	"	50.0	ND	101	39.8-134			
p-Isopropyltoluene	ND	500	"	50.0	ND	166	31.7-138			H
Methylene chloride	670	53.3	"	50.0	672	NR	44.2-152			L
Methyl tert-butyl ether	ND	38.6	"	50.0	ND		60.2-164			L
Naphthalene	817	800	"	50.0	ND	NR	22.1-187			H
n-Propylbenzene	ND	500	"	50.0	ND	232	39.3-134			H
1,1,2,2-Tetrachloroethane	406	47.8	"	50.0	ND	812	63.6-183			H
Tetrachloroethene	65.0	36.0	"	50.0	ND	85.4	35.2-126			
Toluene	3370	500	"	50.0	2980	780	61.1-133			H
1,2,3-Trichlorobenzene	ND	1000	"	50.0	ND	738	64.6-132			H
1,2,4-Trichlorobenzene	ND	1000	"	50.0	ND	NR	61.9-120			H
1,1,1-Trichloroethane	20100	500	"	50.0	25500	NR	47.9-127			L
1,1,2-Trichloroethane	185	29.8	"	50.0	129	112	84.8-142			
Trichloroethene	177	47.5	"	50.0	139	76.0	42-120			
Trichlorofluoromethane	ND	500	"	50.0	ND	NR	10-229			L
1,2,4-Trimethylbenzene	568	500	"	50.0	505	126	41.9-139			
1,3,5-Trimethylbenzene	ND	500	"	50.0	ND	118	41.5-135			
Vinyl chloride	6330	58.2	"	50.0	4990	NR	13.5-137			H
Total Xylenes	5250	500	"	150	5400	NR	61.6-130			L
<i>Surrogate: Dibromofluoromethane</i>	<i>48.9</i>		<i>"</i>	<i>50.0</i>		<i>97.8</i>	<i>82-116</i>			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>48.2</i>		<i>"</i>	<i>50.0</i>		<i>96.4</i>	<i>86.2-117</i>			
<i>Surrogate: Toluene-d8</i>	<i>53.3</i>		<i>"</i>	<i>50.0</i>		<i>107</i>	<i>87-118</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>45.3</i>		<i>"</i>	<i>50.0</i>		<i>90.6</i>	<i>72-120</i>			

Matrix Spike Dup (3010202-MSD1)	Source: W301059-07			Prepared: 01/14/03		Analyzed: 01/17/03				
Benzene	106	48.8	ug/l	50.0	ND	158	61.9-134	15.2	10.3	HH
Bromobenzene	ND	500	"	50.0	ND	178	59.6-138	7.57	6.34	HH
Bromodichloromethane	ND	25.5	"	50.0	ND		79.6-140		7.78	L
n-Butylbenzene	ND	500	"	50.0	ND	132	23.7-137	159	23.2	H
sec-Butylbenzene	ND	500	"	50.0	ND	198	30.1-130	2.00	18.8	H
tert-Butylbenzene	ND	500	"	50.0	ND	138	38.5-130	9.09	15.8	H
Carbon tetrachloride	71.0	48.4	"	50.0	ND	142	29.6-132	30.9	20	HH
Chlorobenzene	ND	500	"	50.0	ND	116	71.4-124	9.01	10.3	
Chlorodibromomethane	ND	200	"	50.0	ND		84-129		9.79	L
Chloroethane	ND	500	"	50.0	ND	138	10-258	51.9	32.4	H

Great Lakes Analytical--Oak Creek

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Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B - Quality Control
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3010202 - EPA 5030B (P/T)										
Matrix Spike Dup (3010202-MSD1)										
		Source: W301059-07			Prepared: 01/14/03		Analyzed: 01/17/03			
Chloroform	135	43.1	ug/l	50.0	ND	270	65.7-139	38.9	10	HH
Chloromethane	ND	83.5	"	50.0	ND		42.1-134		32.8	L
2-Chlorotoluene	ND	500	"	50.0	ND	326	51.8-141	17.3	8.85	HH
4-Chlorotoluene	ND	500	"	50.0	ND	292	59.3-137	22.9	8.61	HH
1,2-Dibromo-3-chloropropane	ND	62.6	"	50.0	ND		76.2-160		7.82	L
1,2-Dibromoethane	ND	23.5	"	50.0	ND		70.8-144		4.86	L
1,2-Dichlorobenzene	ND	500	"	50.0	ND	118	65.8-133	5.22	10.6	
1,3-Dichlorobenzene	ND	500	"	50.0	ND	134	57.3-133	0.00	12	H
1,4-Dichlorobenzene	ND	500	"	50.0	ND	132	61.4-129	14.6	11.4	HH
Dichlorodifluoromethane	ND	500	"	50.0	ND	NR	10-132		54.9	L
1,1-Dichloroethane	5120	500	"	50.0	5080	80.0	54.3-133	12.2	12.2	
1,2-Dichloroethane	1060	20.7	"	50.0	963	194	78.2-143	29.3	9.42	HH
1,1-Dichloroethene	457	47.4	"	50.0	468	NR	22.8-139	3.11	28.5	L
cis-1,2-Dichloroethene	129000	5000	"	50.0	123000	NR	64-139	6.02	14.4	H
trans-1,2-Dichloroethene	ND	500	"	50.0	ND	NR	39.8-136		16.6	L
1,2-Dichloropropane	87.0	30.5	"	50.0	ND	174	75.2-135	27.5	11	HH
1,3-Dichloropropane	ND	500	"	50.0	ND	106	73.5-142		4.32	
2,2-Dichloropropane	ND	500	"	50.0	ND		10-153		19.8	L
Di-isopropyl ether	ND	500	"	50.0	ND	158	25.3-171		11.5	
Ethylbenzene	976	500	"	50.0	925	102	64.7-124	2.81	12	
Hexachlorobutadiene	ND	1000	"	50.0	ND	196	12-143	146	25.3	HH
Isopropylbenzene	ND	500	"	50.0	ND	139	39.8-134	20.5	15.8	HH
p-Isopropyltoluene	ND	500	"	50.0	ND	142	31.7-138	10.3	18.6	H
Methylene chloride	269	53.3	"	50.0	672	NR	44.2-152	85.4	12.9	LH
Methyl tert-butyl ether	75.0	38.6	"	50.0	ND	150	60.2-164		22.7	
Naphthalene	ND	800	"	50.0	ND	378	22.1-187	99.5	30	HH
n-Propylbenzene	ND	500	"	50.0	ND	252	39.3-134	5.52	16.6	H
1,1,2,2-Tetrachloroethane	222	47.8	"	50.0	ND	444	63.6-183	58.6	10.5	HH
Tetrachloroethene	ND	36.0	"	50.0	ND	NR	35.2-126		19.1	L
Toluene	3020	500	"	50.0	2980	80.0	61.1-133	11.0	11	
1,2,3-Trichlorobenzene	ND	1000	"	50.0	ND	156	64.6-132	130	23.2	HH
1,2,4-Trichlorobenzene	ND	1000	"	50.0	ND	130	61.9-120	164	18.8	HH
1,1,1-Trichloroethane	24400	500	"	50.0	25500	NR	47.9-127	19.3	20.3	L
1,1,2-Trichloroethane	187	29.8	"	50.0	129	116	84.8-142	1.08	7.39	
Trichloroethene	112	47.5	"	50.0	139	NR	42-120	45.0	12.6	LH

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

ERM - North Central, Inc. - WI
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Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

**WDNR Volatile Organic Compounds by Method 8260B - Quality Control
Great Lakes Analytical--Buffalo Grove**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Notes
Batch 3010202 - EPA 5030B (P/T)										
Matrix Spike Dup (3010202-MSD1)										
		Source: W301059-07			Prepared: 01/14/03		Analyzed: 01/17/03			
Trichlorofluoromethane	ND	500	ug/l	50.0	ND	NR	10-229		49.1	L
1,2,4-Trimethylbenzene	571	500	"	50.0	505	132	41.9-139	0.527	15	
1,3,5-Trimethylbenzene	ND	500	"	50.0	ND	138	41.5-135	5.00	16.6	H
Vinyl chloride	8530	58.2	"	50.0	4990	NR	13.5-137	29.6	31.6	H
Total Xylenes	5500	500	"	150	5400	66.7	61.6-130	4.65	11.1	
<i>Surrogate: Dibromofluoromethane</i>	<i>55.0</i>		<i>"</i>	<i>50.0</i>		<i>110</i>	<i>82-116</i>			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>63.4</i>		<i>"</i>	<i>50.0</i>		<i>127</i>	<i>86.2-117</i>			H
<i>Surrogate: Toluene-d8</i>	<i>46.9</i>		<i>"</i>	<i>50.0</i>		<i>93.8</i>	<i>87-118</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>45.0</i>		<i>"</i>	<i>50.0</i>		<i>90.0</i>	<i>72-120</i>			





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Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B (Blank Analysis) - Quality Control
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 3010202 - EPA 5030B (P/T)

Blank (3010202-BLK1)

Prepared & Analyzed: 01/14/03

Benzene	ND	0.488	ug/l							
Bromobenzene	ND	5.00	"							
Bromodichloromethane	ND	0.255	"							
n-Butylbenzene	ND	5.00	"							
sec-Butylbenzene	ND	5.00	"							
tert-Butylbenzene	ND	5.00	"							
Carbon tetrachloride	ND	0.484	"							
Chlorobenzene	ND	5.00	"							
Chloroethane	ND	5.00	"							
Chloroform	ND	0.431	"							
Chloromethane	ND	0.835	"							
2-Chlorotoluene	ND	5.00	"							
4-Chlorotoluene	ND	5.00	"							
Dibromochloromethane	ND	5.00	"							
1,2-Dibromo-3-chloropropane	ND	0.626	"							
1,2-Dibromoethane	ND	0.235	"							
1,2-Dichlorobenzene	ND	5.00	"							
1,3-Dichlorobenzene	ND	5.00	"							
1,4-Dichlorobenzene	ND	5.00	"							
Dichlorodifluoromethane	ND	5.00	"							
1,1-Dichloroethane	ND	5.00	"							
1,2-Dichloroethane	ND	0.207	"							
1,1-Dichloroethene	ND	0.474	"							
cis-1,2-Dichloroethene	ND	5.00	"							
trans-1,2-Dichloroethene	ND	5.00	"							
1,2-Dichloropropane	ND	0.305	"							
1,3-Dichloropropane	ND	5.00	"							
2,2-Dichloropropane	ND	5.00	"							
Di-isopropyl ether	ND	5.00	"							
Ethylbenzene	ND	5.00	"							
Hexachlorobutadiene	ND	10.0	"							
Isopropylbenzene	ND	5.00	"							
p-Isopropyltoluene	ND	5.00	"							
Methylene chloride	ND	0.533	"							
Methyl tert-butyl ether	ND	0.386	"							

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager



140 East Ryan Road
Oak Creek, Wisconsin 53154

Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

ERM - North Central, Inc. - WI
700 W Virginia Street Suite 601
Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B (Blank Analysis) - Quality Control
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 3010202 - EPA 5030B (P/T)

Blank (3010202-BLK1)

Prepared & Analyzed: 01/14/03

Naphthalene	ND	8.00	ug/l							
n-Propylbenzene	ND	5.00	"							
1,1,2,2-Tetrachloroethane	ND	0.478	"							
Tetrachloroethene	ND	0.360	"							
Toluene	ND	5.00	"							
1,2,3-Trichlorobenzene	ND	10.0	"							
1,2,4-Trichlorobenzene	ND	10.0	"							
1,1,1-Trichloroethane	ND	5.00	"							
1,1,2-Trichloroethane	ND	0.298	"							
Trichloroethene	ND	0.475	"							
Trichlorofluoromethane	ND	5.00	"							
1,2,4-Trimethylbenzene	ND	5.00	"							
1,3,5-Trimethylbenzene	ND	5.00	"							
Vinyl chloride	ND	0.582	"							
Total Xylenes	ND	5.00	"							
Surrogate: Dibromofluoromethane	54.0		"	50.0		108	82-116			
Surrogate: 1,2-Dichloroethane-d4	62.8		"	50.0		126	86.2-117			H
Surrogate: Toluene-d8	45.3		"	50.0		90.6	87-118			
Surrogate: 4-Bromofluorobenzene	48.2		"	50.0		96.4	72-120			

LCS (3010202-BS1)

Prepared & Analyzed: 01/14/03

Surrogate: Dibromofluoromethane	50.9		ug/l	50.0		102	82-116			
Surrogate: 1,2-Dichloroethane-d4	57.1		"	50.0		114	86.2-117			
Surrogate: Toluene-d8	45.0		"	50.0		90.0	87-118			
Surrogate: 4-Bromofluorobenzene	49.5		"	50.0		99.0	72-120			

Matrix Spike (3010202-MS1)

Source: W301059-07

Prepared: 01/14/03 Analyzed: 01/17/03

Surrogate: Dibromofluoromethane	48.9		ug/l	50.0		97.8	82-116			
Surrogate: 1,2-Dichloroethane-d4	48.2		"	50.0		96.4	86.2-117			
Surrogate: Toluene-d8	53.3		"	50.0		107	87-118			
Surrogate: 4-Bromofluorobenzene	45.3		"	50.0		90.6	72-120			

Great Lakes Analytical--Oak Creek

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ERM - North Central, Inc. - WI
700 W Virginia Street Suite 601
Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

WDNR Volatile Organic Compounds by Method 8260B (Blank Analysis) - Quality Control
Great Lakes Analytical--Buffalo Grove

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 3010202 - EPA 5030B (P/T)

Matrix Spike Dup (3010202-MSD1)

Source: W301059-07

Prepared: 01/14/03

Analyzed: 01/17/03

Surrogate: Dibromofluoromethane	55.0		ug/l	50.0		110	82-116			
Surrogate: 1,2-Dichloroethane-d4	63.4		"	50.0		127	86.2-117			H
Surrogate: Toluene-d8	46.9		"	50.0		93.8	87-118			
Surrogate: 4-Bromofluorobenzene	45.0		"	50.0		90.0	72-120			

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

ERM - North Central, Inc. - WI
700 W Virginia Street Suite 601
Milwaukee WI, 53202

Project: D-F Incorporated
Project Number: n/a
Project Manager: Carl Stay

Reported:
01/21/03 17:45

Notes and Definitions

- QC The result for one or more quality control measurements associated with this sample did not meet the laboratory and/or source method acceptance criteria.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- L This quality control measurement is below the laboratory established limit.
- H This quality control measurement is above the laboratory established limit.

Great Lakes Analytical--Buffalo Grove Wisconsin DNR Certification Lab ID: 999917160

Great Lakes Analytical--Buffalo Grove NELAP Primary Accreditation: Illinois #100261

Great Lakes Analytical--Buffalo Grove NELAP Secondary Accreditation: New Jersey #IL001

Great Lakes Analytical--Oak Creek, WI Wisconsin DNR Certification Lab ID: 341000330

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager



ERM

Sent via courier to GREAT LAKES Analytical SAMPLE CHAIN OF CUSTODY

W.O.No.: BU203		Project Name: D-F Incorporated			Number of Containers						Remarks	
Sampler: CARL B Stary												
ERM Sample Number	Date	Time	COMP	GRAB	Station Location							
MW-7	1/8/03	1135		X	MW-7	3	X				*	W30105701
MW-7 DUP				X	MW-7 Duplicate	3	X				*	Please run/report 03
MW-15		1150		X		3	X					with a detection 03
MW-4 B		1120		X	Blank	3	X					limit of 04
MW-4		1225			MW-4	3	X					5.0 ug/l. 05
MW-2		1255			MW-2	3	X				*	06
MW-2 MS/MSD		1255			MW-2 MS/MSD	3	X				*	07
TB-1		800			Trip Blank	1	X					08
											* may require dilution	
Sample Relinquished by: Carl B Stary												
Date: 1/9/03												
Time: 11:00A												
Sample Received by: Mike Richmond												
Date: 1/9/03												
Time: 1530												
Reason for Transfer:												

COPIES: White & Yellow copies accompany sample shipment to laboratory. Yellow copy retained by laboratory. White copy to be returned to ERM for files. Pink copy retained by sampler. Gold copy extra copy as needed.

APPENDIX B
CONTAMINANT TRENDS IN WELLS

**State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program**

**Mann-Kendall Statistical Test
Form 4400-215 (5/2000)**

Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under S. Comm. 40.07 or S. NR 740.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of Ch. Comm. 40 and Ch. NR 740, Wis. Adm. Code.

Instructions: To use the spreadsheet, provide at least four rounds and not more than 10 rounds of data. Use cells with yellow background for data entry. Use consistent units. The spreadsheet contains several error checks, and a data entry error may cause DATA ERR to be displayed. Dates that are not consecutive will show an error message and will not display the test results. The spreadsheet tests the data for both increasing and decreasing trends at an 80% confidence level. If an increasing or decreasing trend is not present, use an additional coefficient of variation test is used for stable and non-stable conditions as proposed by Viidenmaki et al, 1999. For additional information, refer to guidance in Interim Guidance on Natural Attenuation for Petroleum Releases, dated October 1999. Refer to the guidance for recommendations on data entry for non-detect values.

Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-2

Compound		Benzene	Toluene	Ethylbenzene	Xylenes	1,2,4-TMBZ	1,3,5-TMBZ
Event Number	Sampling Date (most recent last)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	25-Jun-98		1,500.00	430.00	2,600.00		
2	9-Sep-98	72.00	5,200.00	1,300.00	7,700.00	790.00	200.00
3	17-Dec-98		2,600.00	610.00	2,600.00		
4	11-Mar-99	61.00	2,300.00	820.00	4,200.00	470.00	140.00
5	23-Sep-99		3,700.00	1,000.00	6,200.00		
6	23-Mar-00		2,100.00	560.00	3,400.00		
7	9-Oct-00	27.10	2,100.00	524.00	3,310.00	308.00	99.80
8	30-Mar-01		2,000.00	440.00	1,900.00		
9	16-Apr-02	17.80	2,620.00	922.00	4,680.00	491.00	122.00
10	8-Jan-03	30.50	5,820.00	1,880.00	10,900.00	1,060.00	125.00

S =	-6	4	5	6	2	-4
n =	5	10	10	10	5	5
Average =	41.68	2994	848.6	4749	623.8	137.36
Standard Deviation =	23.45414675	1450.916951	457.5830708	2792.817972	299.5466575	37.84901584
Coefficient of Variation(CV)=	0.562719452	0.4846082	0.539221153	0.588085486	0.480196629	0.275546126

Increasing Trend (80% Confidence)	NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)	YES	NO	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1	NO	YES	YES	YES	YES	YES
Undetermined Non-Stable Trend, CV>1	NO	NO	NO	NO	NO	NO

Error Check, OK if Blank

Stable or Decreasing Trend at 80% Confidence Level	YES	YES	YES	YES	YES	YES
--	-----	-----	-----	-----	-----	-----

Data Entry By = SEV

Date =

1-May-02

Checked By =

**State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program**

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-2

Event Number	Compound	Sampling Date (most recent last)	PCE Concentration (leave blank if no data)	TCE Concentration (leave blank if no data)	cis-1,2-DCE Concentration (leave blank if no data)	trans-1,2-DCE Concentration (leave blank if no data)	1,1-DCE Concentration (leave blank if no data)	VC Concentration (leave blank if no data)
1		25-Jun-98		1,500.00	81,000.00			4,700.00
2		9-Sep-98		1,700.00	120,000.00		1,300.00	8,300.00
3		17-Dec-98		2,100.00	90,000.00		410.00	7,900.00
4		11-Mar-99		3,900.00	99,000.00			6,800.00
5		23-Sep-99		1,600.00	160,000.00		470.00	8,700.00
6		23-Mar-00		1,300.00	84,000.00		300.00	3,600.00
7		9-Oct-00	21.10	994.00	87,900.00		366.00	6,330.00
8		30-Mar-01		900.00	60,000.00			5,000.00
9		16-Apr-02	27.80	1,350.00	72,800.00		367.00	7,920.00
10		8-Jan-03	20.60	121.00	157,000.00	56.30	921.00	9,840.00

S =	-1	-25	-5	0	-3	7
n =	3	10	10	1	7	10
Average =	23.16666667	1546.5	101170	56.3	590.5714286	6909
Standard Deviation =	4.020364826	984.8042389	34058.05664	#DIV/0!	375.1585696	1987.686819
Coefficient of Variation(CV)=	0.173540928	0.636795499	0.336641857	#DIV/0!	0.635246731	0.287695299

Increasing Trend (80% Confidence)	ERROR	NO	NO	ERROR	NO	NO
Decreasing Trend (80% Confidence)	ERROR	YES	NO	ERROR	NO	NO
Undetermined Stable Trend, CV<=1	ERROR	NO	YES	ERROR	YES	YES
Undetermined Non-Stable Trend, CV>1	ERROR	NO	NO	ERROR	NO	NO

Error Check, OK if Blank ERR, n < 4 ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	ERROR	YES	YES	ERROR	YES	YES
--	-------	-----	-----	-------	-----	-----

Data Entry By = SEV Date = 1-May-02 Checked By =

**State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program**

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-2

Event Number	Sampling Date (most recent last)	Compound	1,1,2-TCA Concentration (leave blank if no data)	TCA Concentration (leave blank if no data)	1,2-DCA Concentration (leave blank if no data)	1,1-DCA Concentration (leave blank if no data)	CA Concentration (leave blank if no data)
1	25-Jun-98			19,000.00		3,000.00	
2	9-Sep-98			33,000.00	3,800.00	1,200.00	
3	17-Dec-98			2,100.00	550.00	3,500.00	
4	11-Mar-99			22,000.00		3,000.00	
5	23-Sep-99		120.00	35,000.00	840.00	3,600.00	100.00
6	23-Mar-00			16,000.00	560.00	2,400.00	
7	9-Oct-00		104.00	12,600.00	436.00	2,980.00	192.00
8	30-Mar-01			14,000.00		1,900.00	
9	16-Apr-02		77.20	22,200.00	479.00	2,750.00	1,400.00
10	8-Jan-03		140.00	22,700.00	1,920.00	10,800.00	822.00

S =	0	3	-5	2	4	0
n =	4	10	7	10	4	0
Average =	110.3	19860	1226.428571	3513	628.5	#DIV/0!
Standard Deviation =	26.52973175	9650.008636	1247.58084	2660.225763	606.2175077	#DIV/0!
Coefficient of Variation(CV)=	0.240523407	0.485901744	1.017247045	0.757251854	0.964546552	#DIV/0!

Increasing Trend (80% Confidence)	NO	NO	NO	NO	YES	ERROR
Decreasing Trend (80% Confidence)	NO	NO	NO	NO	NO	ERROR
Undetermined Stable Trend, CV<=1	YES	YES	NO	YES	NO	ERROR
Undetermined Non-Stable Trend, CV>1	NO	NO	YES	NO	NO	ERROR

Error Check, OK if Blank ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	YES	YES	NO	YES	NO	ERROR
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Data Entry By = SEV Date = 1-May-02 Checked By =

**State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program**

**Mann-Kendall Statistical Test
Form 4400-215 (5/2000)**

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-4

Event Number	Sampling Date (most recent last)	Compound	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Xylenes Concentration (leave blank if no data)	1,2,4-TMBZ Concentration (leave blank if no data)	1,3,5-TMBZ Concentration (leave blank if no data)
1	25-Jun-98		7.00	0.71	96.00	30.00	13.00	2.20
2	9-Sep-98		6.90	0.83	29.00	3.30	2.80	
3	17-Dec-98		7.80		49.00	6.70		
4	11-Mar-99		6.70		36.00	8.80		
5	23-Sep-99		8.70		31.00	8.80		
6	23-Mar-00		6.10		8.80	0.74		
7	9-Oct-00		8.87		17.40		25.40	
8	30-Mar-01		4.30	1.10	12.00	11.00	8.80	1.30
9	16-Apr-02		6.04		7.96	13.00	5.60	
10	8-Jan-03		5.01		7.96	13.00	5.60	

S =	-17	3	-34	10	-4	-1
n =	10	3	10	9	6	2
Average =	6.742	0.88	29.512	10.59333333	10.2	1.75
Standard Deviation =	1.469805732	0.199749844	27.1954689	8.368386941	8.22094885	0.636396103
Coefficient of Variation(CV)=	0.218007376	0.226988459	0.921505452	0.789967301	0.805975377	0.363654916

Increasing Trend (80% Confidence)	NO	ERROR	NO	YES	NO	ERROR
Decreasing Trend (80% Confidence)	YES	ERROR	YES	NO	NO	ERROR
Undetermined Stable Trend, CV<=1	NO	ERROR	NO	NO	YES	ERROR
Undetermined Non-Stable Trend, CV>1	NO	ERROR	NO	NO	NO	ERROR

Error Check, OK if Blank ERR, n < 4 ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	YES	ERROR	YES	NO	YES	ERROR
--	-----	-------	-----	----	-----	-------

Data Entry By = SEV Date = 22-Apr-03 Checked By =

**State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program**

**Mann-Kendall Statistical Test
Form 4400-215 (5/2000)**

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-4

Event Number	Compound	Sampling Date (most recent last)	PCE Concentration (leave blank if no data)	TCE Concentration (leave blank if no data)	cis-1,2-DCE Concentration (leave blank if no data)	trans-1,2-DCE Concentration (leave blank if no data)	1,1-DCE Concentration (leave blank if no data)	VC Concentration (leave blank if no data)
1		25-Jun-98		6.30	180.00	2.60		68.00
2		9-Sep-98		6.10	150.00	2.40		59.00
3		17-Dec-98		5.10	190.00	3.40		160.00
4		11-Mar-99			110.00	2.20		54.00
5		23-Sep-99		5.40	91.00			51.00
6		23-Mar-00		5.80	170.00	2.30		110.00
7		9-Oct-00		4.54	64.00			37.50
8		30-Mar-01		5.20	140.00	2.10	1.80	160.00
9		16-Apr-02		6.02	97.90			113.00
10		8-Jan-03		3.45	55.80			71.90

S =	0	-16	-25	-9	0	2
n =	0	9	10	6	1	10
Average =	#DIV/0!	5.323333333	124.87	2.5	1.8	88.44
Standard Deviation =	#DIV/0!	0.89886039	48.01606328	0.473286383	#DIV/0!	44.78407951
Coefficient of Variation(CV)=	#DIV/0!	0.168852922	0.384528416	0.189314553	#DIV/0!	0.506378104

Increasing Trend (80% Confidence)	ERROR	NO	NO	NO	ERROR	NO
Decreasing Trend (80% Confidence)	ERROR	YES	YES	YES	ERROR	NO
Undetermined Stable Trend, CV<=1	ERROR	NO	NO	NO	ERROR	YES
Undetermined Non-Stable Trend, CV>1	ERROR	NO	NO	NO	ERROR	NO

Error Check, OK if Blank ERR, n < 4 ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	ERROR	YES	YES	YES	ERROR	YES
--	-------	-----	-----	-----	-------	-----

Data Entry By = SEV Date = 22-Apr-03 Checked By =

**State of Wisconsin
Department of Natural Resources
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**Mann-Kendall Statistical Test
Form 4400-215 (5/2000)**

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-4

Event Number	Sampling Date (most recent last)	Compound	1,1,2-TCA Concentration (leave blank if no data)	TCA Concentration (leave blank if no data)	1,2-DCA Concentration (leave blank if no data)	1,1-DCA Concentration (leave blank if no data)	CA Concentration (leave blank if no data)
1	25-Jun-98				7.50	100.00	280.00
2	9-Sep-98				94.00	7.80	300.00
3	17-Dec-98				7.70	120.00	280.00
4	11-Mar-99				5.30	67.00	220.00
5	23-Sep-99				4.80	54.00	180.00
6	23-Mar-00			2.70	6.20	72.00	140.00
7	9-Oct-00					37.30	284.00
8	30-Mar-01		2.80	25.00	6.10	70.00	120.00
9	16-Apr-02			16.70	5.06	79.40	735.00
10	1-Jan-03					58.60	96.60

S =	0	1	-14	-3	-16	0
n =	1	3	8	10	10	0
Average =	2.8	14.8	17.0825	66.61	263.56	#DIV/0!
Standard Deviation =	#DIV/0!	11.27075863	31.09760935	31.11007161	181.7121729	#DIV/0!
Coefficient of Variation(CV)=	#DIV/0!	0.761537745	1.820436666	0.467048065	0.689452773	#DIV/0!

Increasing Trend (80% Confidence)	ERROR	ERROR	NO	NO	NO	ERROR
Decreasing Trend (80% Confidence)	ERROR	ERROR	YES	NO	YES	ERROR
Undetermined Stable Trend, CV<=1	ERROR	ERROR	NO	YES	NO	ERROR
Undetermined Non-Stable Trend, CV>1	ERROR	ERROR	NO	NO	NO	ERROR

Error Check, OK if Blank ERR, n < 4 ERR, n < 4 ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	ERROR	ERROR	YES	YES	YES	ERROR
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Data Entry By = SEV Date = 22-Apr-03 Checked By =

**State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program**

**Mann-Kendall Statistical Test
Form 4400-215 (5/2000)**

Notice: This form is provided to consultants as an optional tool to be used to provide groundwater contaminant data required to support site closure requests under S. Comm 40.07 or S. NR 740.07, Wis. Adm. Code. Use this form or a manual method to calculate the Mann-Kendall statistic, as specified in Appendix A of Ch. Comm 40 and Ch. NR 740, Wis. Adm. Code.

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-7

Event Number	Sampling Date (most recent last)	Compound	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Xylenes Concentration (leave blank if no data)	1,2,4-TMBZ Concentration (leave blank if no data)	1,3,5-TMBZ Concentration (leave blank if no data)
1	25-Jun-98			1,500.00	430.00	2,600.00		
2	9-Sep-98		160.00	5,100.00	990.00	4,800.00	580.00	
3	17-Dec-98		150.00	8,200.00	1,100.00	3,900.00		
4	11-Mar-99		41.00	1,800.00	910.00	3,200.00	1,100.00	340.00
5	23-Sep-99		170.00	7,200.00	1,100.00	6,500.00		
6	23-Mar-00			1,900.00	1,200.00	7,200.00	1,100.00	270.00
7	9-Oct-00		34.30	1,750.00	677.00	4,460.00	1,070.00	218.00
8	30-Mar-01			3,400.00	520.00	3,200.00		
9	16-Apr-02		12.90	918.00	490.00	3,340.00	904.00	230.00
10	8-Jan-03		99.90	5,870.00	753.00	4,470.00	687.00	209.00

S =	-9	-3	-6	6	-4	-8
n =	7	10	10	10	6	5
Average =	95.44285714	3763.8	817	4367	906.8333333	253.4
Standard Deviation =	66.12933936	2634.181711	281.6712031	1487.025741	226.4530121	53.72894937
Coefficient of Variation(CV)=	0.692868396	0.699872924	0.344762795	0.340514253	0.249718447	0.21203216

Increasing Trend (80% Confidence)	NO	NO	NO	NO	NO	NO
Decreasing Trend (80% Confidence)	YES	NO	NO	NO	NO	YES
Undetermined Stable Trend, CV<=1	NO	YES	YES	YES	YES	NO
Undetermined Non-Stable Trend, CV>1	NO	NO	NO	NO	NO	NO

Error Check, OK if Blank

Stable or Decreasing Trend at 80% Confidence Level	YES	YES	YES	YES	YES	YES
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Data Entry By = SEV Date = 22-Apr-03 Checked By =

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Site Name = D-F Incorporated St. Francis Wisconsin BRRIS No. = Well Number = MW-7

Event Number	Compound	Sampling Date (most recent last)	PCE Concentration (leave blank if no data)	TCE Concentration (leave blank if no data)	cis-1,2-DCE Concentration (leave blank if no data)	trans-1,2-DCE Concentration (leave blank if no data)	1,1-DCE Concentration (leave blank if no data)	VC Concentration (leave blank if no data)
1		25-Jun-98		7,700.00	220,000.00		1,100.00	1,900.00
2		9-Sep-98	310.00	11,000.00	350,000.00	1,200.00	2,500.00	2,800.00
3		17-Dec-98	110.00	2,000.00	300,000.00	1,500.00	2,000.00	4,100.00
4		11-Mar-99		2,900.00	26,000.00			2,500.00
5		23-Sep-99	110.00	2,000.00	520,000.00	1,400.00	2,000.00	4,000.00
6		23-Mar-00	38.00		29,000.00	100.00	270.00	3,000.00
7		9-Oct-00	2.81	22.00	48,000.00	188.00	334.00	2,930.00
8		30-Mar-01			140,000.00	600.00	780.00	2,900.00
9		16-Apr-02	4.76	83.00	9,820.00		142.00	3,200.00
10		8-Jan-03	25.00	50.20	232,000.00	1,030.00	1,020.00	11,600.00

S =	-14	-19	-9	-5	-15	17
n =	7	8	10	7	9	10
Average =	85.79571429	3219.4	187482	859.7142857	1127.3333333	3893
Standard Deviation =	108.683962	4031.901398	169032.025	568.9879068	856.9929988	2783.890363
Coefficient of Variation(CV)=	1.266776119	1.252376653	0.901590686	0.661833723	0.760194854	0.715101558

Increasing Trend (80% Confidence)	NO	NO	NO	NO	NO	YES
Decreasing Trend (80% Confidence)	YES	YES	NO	NO	YES	NO
Undetermined Stable Trend, CV<=1	NO	NO	YES	YES	NO	NO
Undetermined Non-Stable Trend, CV>1	NO	NO	NO	NO	NO	NO

Error Check, OK if Blank

Stable or Decreasing Trend at 80% Confidence Level	YES	YES	YES	YES	YES	NO
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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-7

Event Number	Sampling Date (most recent last)	Compound 1,1,2-TCA Concentration (leave blank if no data)	TCA Concentration (leave blank if no data)	1,2-DCA Concentration (leave blank if no data)	1,1-DCA Concentration (leave blank if no data)	CA Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	25-Jun-98		19,000.00		3,000.00		
2	9-Sep-98	130.00	29,000.00	9,600.00	750.00		
3	17-Dec-98	130.00	23,000.00	490.00	12,000.00		
4	11-Mar-99		4,200.00		2,100.00		
5	23-Sep-99	130.00	39,000.00	750.00	9,900.00		
6	23-Mar-00		3,600.00	65.00	2,200.00		
7	9-Oct-00	11.20	3,580.00	85.40	2,600.00		
8	30-Mar-01		14,000.00		5,100.00		
9	16-Apr-02	1.80	2,410.00	24.00	1,620.00		
10	8-Jan-03	65.80	29,500.00	457.00	8,020.00		

S =	-8	-11	-11	3	0	0
n =	6	10	7	10	0	0
Average =	78.13333333	16729	1638.771429	4729	#DIV/0!	#DIV/0!
Standard Deviation =	60.87596132	13203.03033	3520.997505	3900.183614	#DIV/0!	#DIV/0!
Coefficient of Variation(CV)=	0.779129198	0.789230099	2.148559246	0.824737495	#DIV/0!	#DIV/0!

Increasing Trend (80% Confidence)	NO	NO	NO	NO	ERROR	ERROR
Decreasing Trend (80% Confidence)	YES	YES	YES	NO	ERROR	ERROR
Undetermined Stable Trend, CV<=1	NO	NO	NO	YES	ERROR	ERROR
Undetermined Non-Stable Trend, CV>1	NO	NO	NO	NO	ERROR	ERROR

Error Check, OK if Blank ERR, n < 4 ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	YES	YES	YES	YES	ERROR	ERROR
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Data Entry By = SEV

Date = 22-Apr-03 Checked By =

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-15

Event Number	Sampling Date (most recent last)	Compound	Benzene Concentration (leave blank if no data)	Toluene Concentration (leave blank if no data)	Ethylbenzene Concentration (leave blank if no data)	Xylenes Concentration (leave blank if no data)	1,2,4-TMBZ Concentration (leave blank if no data)	1,3,5-TMBZ Concentration (leave blank if no data)
1	25-Jun-98			1,300.00	1,800.00	10,000.00	1,100.00	
2	9-Sep-98			1,500.00	1,800.00	11,000.00	1,200.00	260.00
3	17-Dec-98			1,200.00	1,900.00	9,400.00	1,200.00	300.00
4	11-Mar-99		20.00	1,000.00	2,100.00	12,000.00		
5	23-Sep-99			310.00	1,800.00	11,000.00		
6	23-Mar-00		6.50	340.00	1,900.00	10,800.00		
7	9-Oct-00		5.72	313.00	1,270.00	7,520.00	707.00	259.00
8	30-Mar-01			250.00	1,900.00	11,600.00	1,100.00	270.00
9	16-Apr-02		6.06	257.00	2,100.00	10,700.00	1,380.00	
10	8-Jan-03		3.31	261.00	2,120.00	9,290.00	1,180.00	247.00

S =	-8	-33	18	-8	3	-4
n =	5	10	10	10	7	5
Average =	8.318	673.1	1869	10331	1123.857143	267.2
Standard Deviation =	6.646474253	511.6099751	246.2361107	1316.936259	206.2623156	20.06738648
Coefficient of Variation(CV)=	0.799047157	0.760080189	0.131747518	0.127474229	0.183530724	0.075102494

Increasing Trend (80% Confidence)	NO	NO	YES	NO	NO	NO
Decreasing Trend (80% Confidence)	YES	YES	NO	NO	NO	NO
Undetermined Stable Trend, CV<=1	NO	NO	NO	YES	YES	YES
Undetermined Non-Stable Trend, CV>1	NO	NO	NO	NO	NO	NO

Error Check, OK if Blank

Stable or Decreasing Trend at 80% Confidence Level	YES	YES	NO	YES	YES	YES
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Data Entry By = SEV Date = 22-Apr-03 Checked By =

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-15

Event Number	Compound	Sampling Date (most recent last)	PCE Concentration (leave blank if no data)	TCE Concentration (leave blank if no data)	cis-1,2-DCE Concentration (leave blank if no data)	trans-1,2-DCE Concentration (leave blank if no data)	1,1-DCE Concentration (leave blank if no data)	VC Concentration (leave blank if no data)
1		25-Jun-98			3,300.00		150.00	980.00
2		9-Sep-98			3,000.00		130.00	1,100.00
3		17-Dec-98			1,600.00			880.00
4		11-Mar-99	2.40		1,500.00	27.00	38.00	
5		23-Sep-99			350.00			
6		23-Mar-00			100.00	8.20	8.50	260.00
7		9-Oct-00	2.34		108.00	8.08	9.85	142.00
8		30-Mar-01						110.00
9		16-Apr-02	5.09	2.97	22.90		0.94	41.10
10		8-Jan-03	0.53	2.53	27.40		0.53	21.00

S =	-2	-1	-32	-3	-19	-26
n =	4	2	9	3	7	8
Average =	2.59	2.75	1112.033333	14.42666667	48.26	441.7625
Standard Deviation =	1.87902457	0.311126984	1309.38325	10.88899138	64.17585709	460.6767318
Coefficient of Variation(CV)=	0.725492112	0.113137085	1.177467627	0.754782212	1.329793972	1.042815386

Increasing Trend (80% Confidence)	NO	ERROR	NO	ERROR	NO	NO
Decreasing Trend (80% Confidence)	NO	ERROR	YES	ERROR	YES	YES
Undetermined Stable Trend, CV<=1	YES	ERROR	NO	ERROR	NO	NO
Undetermined Non-Stable Trend, CV>1	NO	ERROR	NO	ERROR	NO	NO

Error Check, OK if Blank ERR, n < 4 ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	YES	ERROR	YES	ERROR	YES	YES
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Data Entry By = SEV

Date =

22-Apr-03

Checked By =

**State of Wisconsin
Department of Natural Resources
Remediation and Redevelopment Program**

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Site Name = D-F Incorporated St. Francis Wisconsin BRRTS No. = Well Number = MW-15

Event Number	Sampling Date (most recent last)	1,1,2-TCA Concentration (leave blank if no data)	TCA Concentration (leave blank if no data)	1,2-DCA Concentration (leave blank if no data)	1,1-DCA Concentration (leave blank if no data)	CA Concentration (leave blank if no data)	Concentration (leave blank if no data)
1	25-Jun-98		2,900.00		610.00		
2	9-Sep-98		3,100.00	580.00			
3	17-Dec-98		1,900.00		800.00		
4	11-Mar-99		2,400.00	4.60	760.00	25.00	
5	23-Sep-99		520.00		1,300.00	130.00	
6	23-Mar-00		490.00		1,300.00	60.00	
7	9-Oct-00		198.00		1,510.00	58.50	
8	30-Mar-01		300.00		1,900.00	230.00	
9	16-Apr-02		180.00	4.76	1,540.00	3,810.00	
10	8-Jan-03		37.90	7.17	188.00	864.00	

S =	0	-39	0	15	13	0
n =	0	10	4	9	7	0
Average =	#DIV/0!	1202.59	149.1325	1100.888889	739.6428571	#DIV/0!
Standard Deviation =	#DIV/0!	1229.331947	287.2474057	543.0396957	1385.07174	#DIV/0!
Coefficient of Variation(CV)=	#DIV/0!	1.022236961	1.926122111	0.493273846	1.872622343	#DIV/0!

Increasing Trend (80% Confidence)	ERROR	NO	NO	YES	YES	ERROR
Decreasing Trend (80% Confidence)	ERROR	YES	NO	NO	NO	ERROR
Undetermined Stable Trend, CV<=1	ERROR	NO	NO	NO	NO	ERROR
Undetermined Non-Stable Trend, CV>1	ERROR	NO	YES	NO	NO	ERROR

Error Check, OK if Blank ERR, n < 4 ERR, n < 4

Stable or Decreasing Trend at 80% Confidence Level	ERROR	YES	NO	NO	NO	ERROR
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Data Entry By = SEV Date = 22-Apr-03 Checked By =