

→ Klett



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Southeast District - Annex Building
Post Office Box 12436
4041 N. Richards St.
Milwaukee, Wisconsin 53212
TELEPHONE: 414-961-2727
TELEFAX #: 414-961-2770

George E. Meyer
Secretary

August 11, 1993

File Ref: 3300

Dr. Robert J. McNeil
155 E. Wisconsin
Oconomowoc, WI 53066

Re: Water Sample Results - May 26, 1992 Sample Round
Well Location - N15 W30921 Highway DR, Delafield, Wisconsin

Dear Dr. McNeil:

This letter is to inform you of the laboratory results from the May 26, 1992 water samples we collected from your well. The water was analyzed for the presence of volatile organic, semi-volatile organic, PCBs, pesticides, and inorganic chemicals.

Volatile Organic Chemicals

Two volatile organic chemicals (cis-1,2-dichloroethylene and 1,2-dichloroethane) were found in the May 26, 1992 sample. The concentrations found were below NR 140 Groundwater Quality Standards. Previous samples had concentrations of VOCs over NR 140 standards. A sampling history of volatile organic chemical analyses done on your well water is provided.

Volatile Organic Chemical Sampling History for McNeil Well

Table with 4 columns: SAMPLE DATE, COMPOUND DETECTED, CONCENTRATION (ug/L), NR 140 STANDARD (ug/L) 1992. It contains two rows of data for samples from 05/26/92 and 10/14/86.

1 After pressure tank and filter



SAMPLE DATE	COMPOUND DETECTED	CONCENTRATION (ug/L)	NR 140 STANDARD (ug/L) 1992
10/14/86 <sup>2</sup>	1,2-Dichloroethane cis-1,2-Dichloroethylene Benzene Fluorotrichloromethane Trichloroethylene	11 1.7 <sup>3</sup> 3.9 1.7 5.3	5 100 5 3490 5
09/04/85	1,2-Dichloroethane cis-1,2-Dichloroethylene Benzene Trichloroethylene	28 3.8 800 10	5 100 5 5

### Semi-Volatile Organic Chemicals, Pesticides, and PCBs

These compounds were either not detected or were not detected at a sufficient concentration to be considered present in your water supply.

### Inorganic Water Chemistry

Manganese was found at an elevated level in your water. The public welfare standard for manganese is 50 micrograms per liter (ug/L); the level in your water was 534 ug/L or, roughly 10 times the groundwater standard. Elevated levels of manganese can cause black streaks or staining on plumbing fixtures.

Levels of calcium and magnesium found in your water well were elevated when compared to levels found in wells considered to be "background" or unaffected. The aquifers, or water bearing formations, in your area contain a naturally-occurring mineral called dolomite. Dolomite is a calcium magnesium bicarbonate mineral and as groundwater passes through the pore spaces in the rock formations some dolomite dissolves.

Manganese, calcium, and magnesium levels are used as indicator parameters near landfills. If the level of an indicator parameter is greater than the background or naturally-occurring level for an area, this gives us an indication that groundwater contamination has occurred.

### Sample Reports

Included (see enclosure) is a summary of both the organic and inorganic water chemistry results.

<sup>2</sup> Before pressure tank and filter

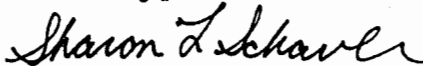
<sup>3</sup> 1985 and 1986 analysis is combination of cis and trans 1,2-dichloroethylene

In 1985, we informed you that the water should not be used for consumptive purposes because chemicals found in your water were greater than drinking water standards. The levels of volatile organic chemicals (VOCs) found in your water have decreased over the years. This could mean that the VOC contamination plume(s) has (have) traveled past your well; only continued water quality monitoring in your area will help us to find out whether the contamination has dispersed or not and whether your water will continue to be safe to drink or not. We will continue to monitor the water quality in your area.

If you have any questions regarding the May 26, 1992 sampling event, I can refer you to John Krahling, Environmental Repair Hydrogeologist. If you require additional information regarding private or public water supplies, you may contact me at (414) 961-5435.

Thank you for your cooperation during the sampling event conducted by the Environmental Repair program.

Sincerely,



Sharon L. Schaver  
District Hydrogeologist - SED  
Water Supply Program

Enclosure

cc: John Krahling - SED  
Nancy Payne - SED  
Barbara Gear - SW/3  
Roger Klett - SED  
Private Water Supply, WS/2



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August 10, 1993

File Ref: 3300

Mr. and Ms. Fera  
2711 Clover Street  
Delafield, WI 53018

Re: Water Sample Results - May 26, 1992 Sample Round  
Well Location - 2711 Clover Street, Delafield, Wisconsin

Dear Mr. and Ms. Fera:

This letter is to inform you of the laboratory results from the May 26, 1992 water samples we collected from your well. The water was analyzed for the presence of volatile organic, semi-volatile organic, PCBs, pesticides, and inorganic chemicals.

**Volatile Organic Chemicals**

Two volatile organic chemicals (1,1-dichloroethane and 1,2-dichloropropane) were found in the May 26, 1992 sample. The concentrations found were below NR 140 Groundwater Quality Standards. Previous samples had concentrations of VOCs over NR 140 standards. A sampling history of volatile organic chemical analyses done on your well water is provided.

Volatile Organic Chemical Sampling History for Fera Well

SAMPLE DATE	COMPOUND DETECTED	CONCENTRATION (ug/L)	NR 140 STANDARD (ug/L) 1992
05/26/92	1,1-Dichloroethane 1,2-Dichloropropane	1 0.8	850 5
07/26/88	NO DETECTS		
10/14/86	Chloroethane 1,1-Dichloroethane 1,1-Dichloroethylene	3.4 2.8 2.0	400 850 7

## Semi-Volatile Organic Chemicals, Pesticides, and PCBs

Pesticides and PCBs either were not detected or were not detected at sufficient concentrations to be considered present in your water supply.

Three semi-volatile organic chemicals (SOCs) may have been detected in your water supply; they were Diethylphthalate, Di-n-Butylphthalate, and Bis(2-ethylhexyl) phthalate. The values reported by the laboratory either are estimated values and/or are values greater than the laboratory's instrument detection limit but less than the contract required detection limit. Since the reported values are estimated, the Department would like to resample your well within the next three months to determine whether or not the contaminants are present in your water supply.

## Inorganic Water Chemistry

Manganese was found at an elevated level in your water. The public welfare standard for manganese is 50 micrograms per liter (ug/L); the level in your water was 736 ug/L or, roughly 15 times the groundwater standard. Elevated levels of manganese can cause black streaks or staining on plumbing fixtures. No health risk standard is established for manganese.

Levels of calcium and magnesium found in your water well were elevated when compared to levels found in wells considered "background" or unaffected. The aquifers, or water bearing formations, in your area contain a naturally-occurring mineral called dolomite. Dolomite is a calcium magnesium bicarbonate mineral and as groundwater passes through the pore spaces in the rock formations some dolomite dissolves.

Manganese, calcium, and magnesium levels are used as indicator parameters near landfills. When levels of indicator parameters are greater than the background or naturally-occurring levels for an area, this is an indication that groundwater contamination has occurred.

## Sample Reports

Included (see enclosure) is a summary of both the organic and inorganic water chemistry results.

## Summary

Elevated levels of Manganese, calcium, and magnesium indicate the presence of contamination in the aquifer that supplies water to your well. These contaminants are known as indicator parameters (calcium and magnesium) and public welfare contaminants (manganese).

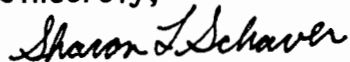
Levels of volatile organic chemicals (VOCs) found in your water have decreased over the years. This could mean that the VOC contamination plume(s) has (have) traveled past your well; only continued water quality monitoring in your area will help us to find out whether the contamination has dispersed or not and whether your water will continue to be safe to drink or not. We will continue to monitor the water quality in your area.

If you have any questions regarding the May 26, 1992 sampling event, I can refer you to John Krahling, Environmental Repair Hydrogeologist. If you require additional information regarding private or public water supplies, you may contact me at (414) 961-5435.

We will contact you to schedule a convenient sample collection date and time to help us determine whether the SOC's are present in your water supply.

Thank you for your cooperation during the sampling event conducted by the Environmental Repair program.

Sincerely,



Sharon L. Schaver  
District Hydrogeologist - SED  
Water Supply Program

Enclosure

cc: John Krahling - SED  
Nancy Payne - SED  
Barbara Gear - SW/3  
Roger Klett - SED  
Private Water Supply, WS/2



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August 11, 1993

File Ref: 3300

Mr. and Ms. Donald Yench  
2715 Clover Street  
Delafield, WI 53018

Re: Water Sample Results - May 26, 1992 Sample Round  
Well Location - 2715 Clover Street, Delafield, Wisconsin

Dear Mr. and Ms. Yench:

This letter is to inform you of the laboratory results from the May 26, 1992 water samples we collected from your well. The water was analyzed for the presence of volatile organic, semi-volatile organic, PCBs, pesticides, and inorganic chemicals.

**Volatile Organic Chemicals**

One volatile organic chemical (1,2-dichloropropane) was found in the May 26, 1992 sample. The concentration was below the NR 140 Groundwater Quality Standard. Previous samples had concentrations of VOCs over NR 140 standards. A sampling history of volatile organic chemical analyses done on your well water is provided.

Volatile Organic Chemical Sampling History for Yench Well

SAMPLE DATE	COMPOUND DETECTED	CONCENTRATION (ug/L)	NR 140 STANDARD (ug/L) 1992
05/26/92	1,2-Dichloropropane	0.9	5
07/26/88	NO DETECTS		
10/14/86	Chloroethane 1,1-Dichloroethane 1,2-Dichloroethylene.	3.4 2.9 1.4	400 850 100 <sup>1</sup>

<sup>1</sup> The standard for both the *cis*- and *trans*- forms of 1,2-dichloroethylene is 100 ug/L (micrograms per liter).



## **Semi-Volatile Organic Chemicals, Pesticides, and PCBs**

Pesticides and PCBs either were not detected or were not detected at sufficient concentrations to be considered present in your water supply.

Two semi-volatile organic chemicals (SOCs) may have been detected in your water supply; they were Diethylphthalate and Di-n-Butylphthalate. The values reported by the laboratory are estimated values. Since the reported values are estimated, the Department would like to resample your well within the next three months to determine whether or not the contaminants are present in your water supply.

## **Inorganic Water Chemistry**

Manganese was found at an elevated level in your water. The public welfare standard for manganese is 50 micrograms per liter (ug/L); the level in your water was 708 ug/L or, roughly 15 times the groundwater standard. Elevated levels of manganese can cause black streaks or staining on plumbing fixtures. No health risk standard is established for manganese.

Levels of calcium and magnesium found in your water well were elevated when compared to levels found in wells considered "background" or unaffected. The aquifers, or water bearing formations, in your area contain a naturally-occurring mineral called dolomite. Dolomite is a calcium magnesium bicarbonate mineral and as groundwater passes through the pore spaces in the rock formations some dolomite dissolves.

Manganese, calcium, and magnesium levels are used as indicator parameters near landfills. When levels of indicator parameters are greater than the background or naturally-occurring levels for an area, this is an indication that groundwater contamination has occurred.

## **Sample Reports**

Included (see enclosure) is a summary of both the organic and inorganic water chemistry results.

## **Summary**

Elevated levels of Manganese, calcium, and magnesium indicate the presence of contamination in the aquifer that supplies water to your well. These contaminants are known as indicator parameters (calcium and magnesium) and public welfare contaminants (manganese).

Levels of volatile organic chemicals (VOCs) found in your water have decreased over the years. This could mean that the VOC contamination plume(s) has (have) traveled past your well; only continued water quality monitoring in your area will help us to find out whether the contamination has dispersed or not and whether your water will continue to be safe to drink or not. We will continue to monitor the water quality in your area.

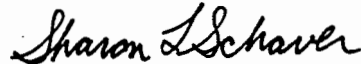


If you have any questions regarding the May 26, 1992 sampling event, I can refer you to John Krahling, Environmental Repair Hydrogeologist. If you require additional information regarding private or public water supplies, you may contact me at (414) 961-5435.

We will contact you to schedule a convenient sample collection date and time to help us determine whether the SOC's are present in your water supply.

Thank you for your cooperation during the sampling event conducted by the Environmental Repair program.

Sincerely,



Sharon L. Schaver  
District Hydrogeologist - SED  
Water Supply Program

Enclosure

cc: John Krahling - SED  
Nancy Payne - SED  
Barbara Gear - SW/3  
Roger Klett - SED  
Private Water Supply, WS/2  
Well Owner

*McNeil* *Fera* *Yruch*

Sample Description		Bkd PW 73	Bkg PW 18	PW 21	PW 55	PW 96	PW 99	Dup S08	PW 98
Sample Location ID	LOW	S02	S05	S01	S06	S07	S08	D08	S23
Traffic Report No.	WATER								
	CRQL	ERC22	ERC25	ERC21	ERC26 #	ERC27	ERC28	ERC34	ERC49
	(ug/l)								
Number of TIC's		1	1	1	1	1	1	1	1
Methylene Chloride	2.0				4 BJ			0.6 J	
1,1-Dichloroethane	1.0						1		
cis-1,2-Dichloroethene	1.0					1			
1,2-Dichloroethane	1.0					3 J			
1,2 Dichloropropane	1.0						0.8 J	0.8 J	0.9 J

Bkd=Background sample

PW=Private well

#=According to the "10X rule", since the volatile blank associated with this sample contained 0.6 ug/l Methylene chloride, the data validator should have deemed this result as "undetected".

Sample Description		Bkd PW 73	Bkd PW 18	PW 21	PW 55	PW 96	PW 99	Dup S08	PW 98
Sample Location ID		S02	S05	S01	S06	S07	S08	D08	S23
Traffic Report No.	LOW WATER CRQL	ERC22	ERC25	ERC21	ERC26	ERC27	ERC28	ERC34	ERC49
Number of TIC's	(ug/l)	0	0	0	0	1	0	0	0
pH		NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	5.0						5 B J		0.6 J
Di-n-Butylphthalate	5.0		0.7 J				5 B J		1 J
bis(2-ethylhexyl)phthalate	5.0						6 B	7 B	

Bkd=Background sample

PW=Private well

NA=Not available

Sample Description		Bkd PW 73	Bkd PW 18	PW 21	PW 55	PW 96	PW 99	Dup S08	PW 98
Sample Location ID	LOW	S02	S05	S01	S06	S07	S08	D08	S23
	WATER								
Traffic Report No.	CRQL	ERC22	ERC25	ERC21	ERC26	ERC27	ERC28	ERC34	ERC49
	(ug/l)								
pH		7.2	6.9	6.9	7.4	7.2	6.5	6.5	7.1
=====									
gamma-BHC (Lindane)	0.005								0.011 P
dieldrin	0.010								0.00089 JP
,4'-DDD	0.020				0.0031 JPB				0.0051 JB
,4'-DDT	0.020		0.0021 JB	0.0049 JB	0.0066 JB				
=====									

kd=Background sample

W=Private well

Sample Description	LOW	Bkgrd PW 73	Bkgrd PW 18	PW 21	PW 55	PW 96	PW 99	Dup of S08	PW 98
Sample Location ID	WATER	S02	S05	S01	S06	S07	S08	D08	S23
Traffic Report No.	CRDL								
	(ug/l)	MEQM22	MEQM25	MEQM21	MEQM26	MEQM27	MEQM28	MEQM34	MEQX01
Aluminum	100	93.6 U	103 J	80.0 U	94.6 J	80.0 U	151 J	87.5 J	82.5 J
Antimony	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Barium	50	150	98.1	76.5	87.1	134	164	163	166
Beryllium	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	1000	101000	48200	78800	72900	139000	122000	121000	121000
Chromium	10	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U	8.0 U
Cobalt	10	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.5
Copper	10	22.2 J	18.8 J	6.4 J	17.8 J	9.3 J	30.8 J	22.7 J	13.3 J
Iron	100	341	80.0 U	80.0	80.0 U	80.0 U	607	600	244
Lead	2	1 U	4	1	1 U	1 U	1	1 U	1 U
Magnesium	1000	47200	24500	36000	36400	62600	66000	65200	89700
Manganese	10	12.4	5.0 U	5.0 U	5.0 U	534	736	730	708
Mercury	0.2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nickel	20	15.0 U	15.0 U	15.0 U	15.0 U	15.3	20.1	16.1	18.4
Potassium	2000	5000 U	6790	5000 U	5000 U	5000 U	11400	10700	11300
Selenium	2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Silver	5	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U
Sodium	1000	21400	57700	42200	23300	114000	78000	77500	76600
Strontium	2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vanadium	10	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Zinc	20	174	533	132	40.0 U	118	77.1	69.7	40.0 U

Bkgrd=Background sample.

J=Private well.