

From: Rozeboom, David B - DNR
Sent: Friday, March 12, 2021 12:40 PM
To: John Storlie
Subject: FW: Campbell 2001 Report Test Well #1 1331-051 040.pdf
Attachments: Campbell 2001 Report Test Well #1 1331-051 040.pdf

John,

I'm forwarding more data to consider from just outside the furthest southwest corner of the airport. Attached is a well test report from Davy Engineering. The test well was located west of the intersection of Callaway Blvd and Lakeshore Dr. Three monitoring wells were installed, screened from 125' to 130' below land surface.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Dave Rozeboom

West Central Region Team Supervisor
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
Phone: 715-215-2078
David.Rozeboom@wisconsin.gov



From: Tim Jacobson <tim@fitzpatrickskemp.com>
Sent: Friday, March 12, 2021 11:27 AM
To: Rozeboom, David B - DNR <David.Rozeboom@wisconsin.gov>
Subject: FW: Campbell 2001 Report Test Well #1 1331-051 040.pdf

David,

I'm guessing you already have seen this report from Davy Engineering about groundwater flow on a portion of French Island to the southwest rather than to the southeast, but I am sending it to you in case you have not seen it. Page 44 of 90 appears to be the relevant page.

Tim Jacobson



Fitzpatrick, Skemp & Butler, LLC
1123 Riders Club Rd
Onalaska, WI 54650
Phone: 608.784.4370 ext. 238

Fax: 608.784.4908
tim@fitzpatrickskemp.com

From: Davy, Michael <mfdavy@davyinc.com>
Sent: Thursday, March 4, 2021 1:32 PM
To: Cassandra Hanan <CHanan@townofcampbell.org>
Subject: Campbell 2001 Report Test Well #1 1331-051 040.pdf

The groundwater mapping for the 2001 Test Well was very localized, depicted on PDF pages 44-45. Note that the flow direction was generally SW, not SE.

Mike

Sincerely,
Michael F. Davy, P.E.
Davy Engineering Co., Inc.
115 6th St S
La Crosse WI 54601
Direct (608) 519-4475
www.davyinc.com

PRIVATE AND CONFIDENTIAL

This e-mail and attachments are intended for the addressed recipient only. If you are not the correct recipient please notify the sender of the delivery error and delete this message. Improper disclosure, copying, distribution, retransmission, or use of information from this e-mail is Prohibited, and may result in liability and damages for misuse of this information.

REPORT
ON
TEST WELL #1
TOWN OF CAMPBELL
LA CROSSE, WISCONSIN



DAVY ENGINEERING CO.
CONSULTING ENGINEERS
LA CROSSE, WISCONSIN
PROJECT No. 1331-051.040
JUNE, 2001

**REPORT
ON
TEST WELL #1
TOWN OF CAMPBELL**

LA CROSSE, WISCONSIN

INDEX

1.0	INTRODUCTION.....	1
2.0	LOCATION SELECTION	1
3.0	PERMANENT MONITORING WELLS.....	1
4.0	TEST WELL CONSTRUCTION.....	2
5.0	TEST WELL GEOLOGY.....	2
6.0	PUMP TEST.....	2
7.0	PUMP TEST ANALYSIS	2 - 3
	7.1 CONE OF DEPRESSION.....	3
	7.2 GROUND WATER VELOCITY	3
	7.3 RECHARGE AREA	3
8.0	WATER QUALITY.....	4

LIST OF FIGURES

FIGURE 1	SITE LOCATION MAP	
FIGURE 2	PRETEST GROUNDWATER GRADIENT.....	
FIGURE 3	CONE OF DEPRESSION	

LIST OF APPENDICES

APPENDIX A	WELL CONSTRUCTION REPORT	
APPENDIX B	GRAIN SIZE ANALYSIS	
APPENDIX C	PUMP TEST 1 FIELD NOTES	
APPENDIX D	PUMP TEST 1 LABORATORY REPORTS	
APPENDIX E	PUMP TEST 2 DRAWDOWN FIELD SHEETS	
APPENDIX F	PUMP TEST 2 LABORATORY REPORTS	
APPENDIX G	WELL ADVANCEMENT LABORATORY REPORTS	
APPENDIX H	FINAL WATER ANALYSIS REPORT.....	
APPENDIX I	MONITORING WELL CONSTRUCTION REPORT	
APPENDIX J	NEAREST LA CROSSE WELL CONSTRUCTION REPORTS	

**REPORT
ON
TEST WELL #1
TOWN OF CAMPBELL

LA CROSSE, WISCONSIN**

1.0 INTRODUCTION

The Campbell Test Well #1 was drilled in compliance with Wisconsin State regulation NR811.16(1)(g). The well was completed from the unconsolidated "Mississippi Valley" aquifer. The Town of Campbell currently relies on private wells, which also are completed from this aquifer. An extended pump test was performed in order to evaluate water quality and quantity under stressed conditions.

2.0 LOCATION SELECTION

The Town of Campbell has acquired an option on 2 acres in far west French Island for the proposed well. A Well Site Investigation was completed on November 4, 1996 and revised July 12, 2000. It was determined that the primary contaminant in the area was manganese. High levels of natural manganese in the groundwater lie northwest (La Crosse Well #26H) and east (La Crosse Well #23H). It was believed that the high manganese levels were restricted to discreet portions of the aquifer.

The site is located in an area of housing developments with the closest existing house being approximately 350 ft. east of the well site. Homes are served by municipal sewer but private wells. Nitrates have not been a problem in the area. Normal levels observed in private wells are generally around 2-5 ppm. Municipal wells located northeast and east of the well site have exhibited 0.4-2.1 ppm.

Locating the test well and future municipal well in zones low in manganese may limit the risk of pulling high manganese waters from other zones into the water column.

3.0 PERMANENT MONITORING WELLS

Three monitoring wells were installed at the site both to assist in the determination of aquifer parameters during pumpage of the Test Well and also to provide data on the possible future municipal well (Site Location Map). The three monitoring wells were placed 33.75 feet, 55 feet and 78.5 feet from the Test Well. All three wells were completed at a total depth of 130 feet. The wells consist of 2 inch diameter PVC casing and a 5 foot, 10 slot PVC continuous slot screen. The monitoring wells were installed in compliance with Wisconsin Administrative Code NR 141. The monitoring well construction reports are included as Appendix I.

4.0 TEST WELL CONSTRUCTION

A 10 inch Test Well was drilled over the period February 7-16, 2001. The original depth estimate was 150 feet. The base of the Valley Fill "Mississippi Valley Aquifer" sands were reached at 150 feet when the Test Well entered the Cambrian Eau Claire formation. Adequate water producing sands were encountered from the water table (30' BGL) to total depth. Based on water quality discussed under section 8.0 the well was backfilled to 115 ft. A screen was selected based on sediment size over the interval 85' to 115' and the well was completed on February 14th. Development of the well was completed over the period of February 15-16, 2001 and the drillers moved off site on Friday, February 16, 2001. The driller's Well Construction Report is included as Appendix A.

5.0 TEST WELL GEOLOGY

The groundwater interface occurs in a medium grained sand at approximately 32-feet. This grades down to a medium to coarse grained sand at 80 feet.

Two fining upward sequences were observed in the drilling samplers. The first extended over the interval from 150 feet to 130 feet BGL while the second extended from 130 feet to 115 feet BGL. The coarsest sediments were observed at the bottom of each sequence and fined upward culminating with the finest sediments at the top of the sequence.

The screened interval in Test Well #1 was 85 to 115 feet BGL. The interval ranged from medium to very coarse sand with some pebble rich zones. The grain size analysis performed on 5 foot intervals from 75 feet BGL to 115 feet BGL are included as Appendix B.

The sands were described as feldspathic, lithic sand with feldspar constituting 15 - 20%, rock fragments at about 10% and 60 - 70% quartz sand. Traces to as much as 5% of the grains were carbonate over the interval.

6.0 PUMP TEST

6.1 TEST A (85 FT. - 115 FT.)

The screened interval 85 ft. - 115 ft. was pump tested over the period February 23 through March 2, 2001. The pump test was initiated at 07:30 on the morning of Friday, February 23. The Test Well was pumped at 706 GPM. Water levels were monitored in each of the monitoring wells as well as the Test Well with increasing time intervals until after 7 hours water levels were monitored on the hour. This was continued through the first 72 hours of testing. The pump test field notes are included as Appendix C.

Water quality was monitored for iron, manganese and nitrates by collecting laboratory samples at regular intervals throughout the test. Lab reports are included as Appendix D. Results are presented in the following table:

TIME	IRON	MANGANESE	NITRATE
1.366 hr	<0.021 ppm	219 ppb	1.82 ppm
2.066 hr	<0.021 ppm	237 ppb	1.85 ppm
6.050 hr	<0.021 ppm	250 ppb	1.88 ppm
12.000 hr	<0.021 ppm	270 ppb	2.06 ppm
24.000 hr	<0.021 ppm	301 ppb	2.34 ppm
36.000 hr	<0.021 ppm	285 ppb	2.38 ppm
48.000 hr	<0.021 ppm	307 ppb	2.54 ppm
60.000 hr	<0.021 ppm	308 ppb	2.61 ppm
72.116 hr	<0.021 ppm	306 ppb	2.73 ppm
96.250 hr	<0.021 ppm	308 ppb	2.83 ppm
108.08 hr	<0.021 ppm	337 ppb	2.94 ppm
120.83 hr	<0.021 ppm	340 ppb	3.08 ppm
133.13 hr	<0.021 ppm	336 ppb	3.00 ppm
144.42 hr	<0.021 ppm	338 ppb	3.13 ppm
156.00 hr	<0.021 ppm	320 ppb	2.98 ppm
168.16 hr	<0.021 ppm	319 ppb	3.10 ppm

As evidenced above, the manganese levels were significantly above the WDNR enforcement level of 50 ppb. The decision was made to move the screen up the well bore and attempt another pump test in order to determine whether better water quality could be achieved.

6.2 TEST B (60 FT. – 90 FT.)

The screen was pulled upward and reset over the interval 60 – 90 feet. Within the screen interval some of the sand is finer than what the screen had been sized for based on the interval 85' – 115'. Development of the formation pulled more sand and therefore took longer than the previous interval. Upon completion of development activity the pump was reinstalled and pumping was set at 745 GPM. The second pump test was commenced at 08:00 on the morning of Thursday, March 22, 2001. The test was completed at 10:00, April 4, 2001 after running 290 hours (12 days). Water levels were monitored as discussed above. The pump test field notes are included as Appendix E.

Water quality was monitored both in the field and laboratory by sampling at regular intervals throughout the test. Lab reports are included as Appendix F. Results are presented in the following table:

DATE	TIME	TEMP	pH	IRON	MANGANESE	NITRATE	ALKALINITY	HARDNESS	TDS	PRODUCTION
	Units			PPM	PPB	PPM	PPM	PPM	PPM	GALLONS
3/21/01	25 hr				72					10,000
3/22/01	1.05 hr			0.314	83	6.83				47,250
3/22/01	3.05 hr	12.1	7.15	0.203	60	6.58				137,250
3/22/01	6.58 hr			<.021	<5	6.09				296,100
3/22/01	12.0 hr	11.9	7.35	0.023	<5	5.61				540,000
3/23/01	24.0 hr	11.9	7.60	<.021	<5	5.53				1,080,000
3/23/01	36.0 hr			<.021	13	4.81				1,620,000
3/24/01	48.0 hr			0.03	18	5.09				2,160,000
3/24/01	60.0 hr			<.021	16	4.64				2,700,000
3/25/01	72.0 hr			<.021	19	5.27				3,240,000
3/26/01	96.0 hr			<.021	19	4.40				4,320,000
3/27/01	128.5 hr	12.1	7.10	<.021	<5	4.94	144	195	293	5,782,500
4/2/01	266.6 hr			0.022	<5	4.49				13,372,650
4/4/01	314.1 hr			<.021	6	3.32				16,222,650

The pump test was maintained as a constant rate test but was bumped up to 1,000 GPM for the last 114.5 hours (4.8 days) to determine whether higher manganese could be pulled into the well. A total of 16.2 million gallons of water were produced over the period of the second pump test.

7.0 PUMP TEST ANALYSIS

One of the purposes of performing a pump test on a well is to determine the aquifer characteristics. The usefulness of knowing these characteristics is in predicting how the aquifer will perform over time, how large the drawdown area is, what is the zone of contribution and the approximate recharge area. All of this is necessary in defining the Well Head Protection Area in order to best protect the ground water resource.

The Transmissivity of the aquifer calculates to approximately 420,000 - 490,000 GPD/ft. The transmissivity of an aquifer is the amount of water in gallons per minute which can flow through a one foot vertical section of the aquifer. This figure is based on two things: the hydraulic conductivity of the aquifer and the thickness of the aquifer. The thickness has been determined to be approximately 115 feet at the Campbell Test Well. The Hydraulic Conductivity, another measurement derived from the pump test is the key measurement to determining most of the aquifer characteristics. The Hydraulic Conductivity calculates to be 519 ft/day - 668 ft/day.

7.1 CONE OF DEPRESSION

The results of the 72 hour pump test indicate that the cone of depression (where the pumping well draws down the normal water table) extends out approximately 199 feet for drawdown equaling 1.0 foot and approximately 4,715 feet for drawdown equaling 0.1 feet. Drawdown at the pumping well was 11.84 feet below the static level pumping at 753 GPM. Figure 2 exhibits the pretest groundwater gradient while Figure 3 shows the cone of depression at the end of 12 days pumping.

7.2 GROUND WATER VELOCITY

The ground water velocity, which is important in calculating travel times for a Well Head Protection Plan, utilizes three components in its determination. Hydraulic conductivity, as stated above, the groundwater gradient which can be determined by careful monitoring of the three monitoring wells on site and formation porosity. The formation porosity has been estimated at 0.28 (28%) based on review of the well sample log. Utilizing an average hydraulic conductivity of 520 ft/day and a gradient of .001ft/ft yields a ground water velocity of 1.86 feet per day (679 feet per year).

7.3 RECHARGE AREA

Recharge to the Test Well site is complicated by the local geology. Under normal unconfined aquifer conditions recharge would be by infiltration of atmospheric precipitation but the Campbell area is unique in receiving significant recharge from two additional sources. The Campbell area receives recharge from the Cambrian sandstones into which the Mississippi River Valley has been cut down into. The alluvial deposits and the Mississippi River are the regional discharge point for these Cambrian aquifers. The second additional source of recharge is from the Mississippi River itself. The damming of the river in the 1930's resulted in generally stable water levels. These levels, generally and especially in the spring of the year, result in water being lost from the river to the surrounding aquifer.

It is difficult and beyond the scope of this project to estimate the contributions of these additional sources of recharge. The basic infiltration calculation assumes that the volume pumped from a well equals the volume infiltrating the land surface. A figure of 10 inches of infiltration results in a recharge area for the Campbell Test Well site of approximately 1.05 square miles. There are many assumptions underlying this calculation and the figure should only be considered a loose approximation.

8.0 WATER QUALITY

Water samples were obtained at discreet sampling horizons as the test well was advanced. Samples were analyzed for iron, manganese and nitrates at six different levels below ground level. Reports are included as Appendix G, results are presented below:

Depth Feet	Iron PPM	Manganese PPB	Nitrates PPM
50'	0.148	41	6.530
70'	<0.021	31	3.920
90'	<0.021	34	2.840
110'	<0.021	48	0.528
130'	<0.021	769	0.012
150'	<0.021	192	0.040

Well Construction Report For
WISCONSIN UNIQUE WELL NUMBER NV 214

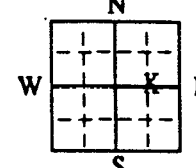
State of Wisconsin
 Private Water Systems-DG/2
 Department of Natural Resources
 Box 7921
 Madison, WI 53707 (Please type or print
 using a black pen.)

Property Owner: Town of Campbell Telephone Number (): _____
 Mailing Address: 2219 Bainbridge St
 City: LaCrosse State: WI Zip Code: 54603
 County of Well Location: LaCrosse Co. Well Permit No. W Well Completion Date (mm-dd-yy): 02-16-01

1. Well Location **Please use decimals instead of fractions.**
 Town City Village Fire # (If avail.) _____
 of Campbell
 Grid or Street Address or Road Name and Number: 2409 Lakeshore Dr

Well Constructor (Business Name): Mark J. Traut Wells, Inc. License #: 5911
 Address: 141 28th Ave So.
 City: Waite Park WI State: _____ Zip Code: 56387

Subdivision Name: _____ Lot #: _____ Block #: _____
 Gov't Lot # _____ or SE 1/4 of NE 1/4 of
 Section 13 T 15 N; R 8 E W

2. Mark well location with a dot in correct 40-acre parcel of section.

 High Capacity: Well? Yes No
 Property? Yes No

3. Well Type New
 Replacement (see item 13 below) Reconstruction
 of previous unique well # _____ constructed in 19 _____
 Reason for replaced or reconstructed well? _____
 Drilled Driven Point Jetted Other _____

4. Well serves 0 # of homes and or rest well
 (Eg: barn, restaurant, church, school, industry, etc.)
 5. Is the well located upslope or sideslope and not downslope from any contamination sources, including those on neighboring properties? Yes No If no, explain on back side.
 Will located in floodplain? Yes No
 Distance in Feet From Well To Nearest: (include proposed)

9. Downspout/Yard Hydrant _____
 10. Privy _____
 11. Foundation Drain to Clearwater _____
 12. Foundation Drain to Sewer _____
 13. Building Drain _____
 Cast Iron or Plastic Other _____
 14. Building Sewer Gravity Pressure _____
 Cast Iron or Plastic Other _____
 15. Collector Sewer: _____ units _____ in. diameter _____
 16. Clearwater Sump _____
 17. Wastewater Sump _____
 18. Paved Animal Barn Pen _____
 19. Animal Yard or Shelter _____
 20. Silo _____
 21. Barn Gutter _____
 22. Manure Pipe Gravity Pressure _____
 Cast Iron or Plastic Other _____
 23. Other Manure Storage _____
 24. Ditch _____
 25. Other NR 812 Waste Source _____

Drillhole Dimensions		Upper Enlarged Drillhole: Method of Construction
From (ft.)	To (ft.)	
16	surface	118

DNR USE ONLY	9. Geology Type, Caving/Noncaving, Color, Hardness, Etc.	From (ft.) To (ft.)	
			Sand & Gravel Brn

Casing, Liner, Screen Material, Weight, Specification Manufacturer & Method of Assembly		From (ft.)	To (ft.)
10	Blk Steel PE Sch40 .365 wall, 40.48 lbs. per foot, sawhill	surface	85

10. Static Water Level _____ ft. above ground surface
32.0831 ft. below ground surface
 11. Pump Test
 Pumping Level 47.88 ft. below surface
 Pumping at 1000 GPM for 15 hours
 12. Well Is: Above Grade Below Grade
 Developed? Yes No
 Disinfected? Yes No
 Capped? Yes No

Method or Other Sealing Material		From (ft.)	To (ft.)	# Sacks Cement
	pressure trimie			
	Kind of Sealing Material			
	solid Bentonite	surface	30	210

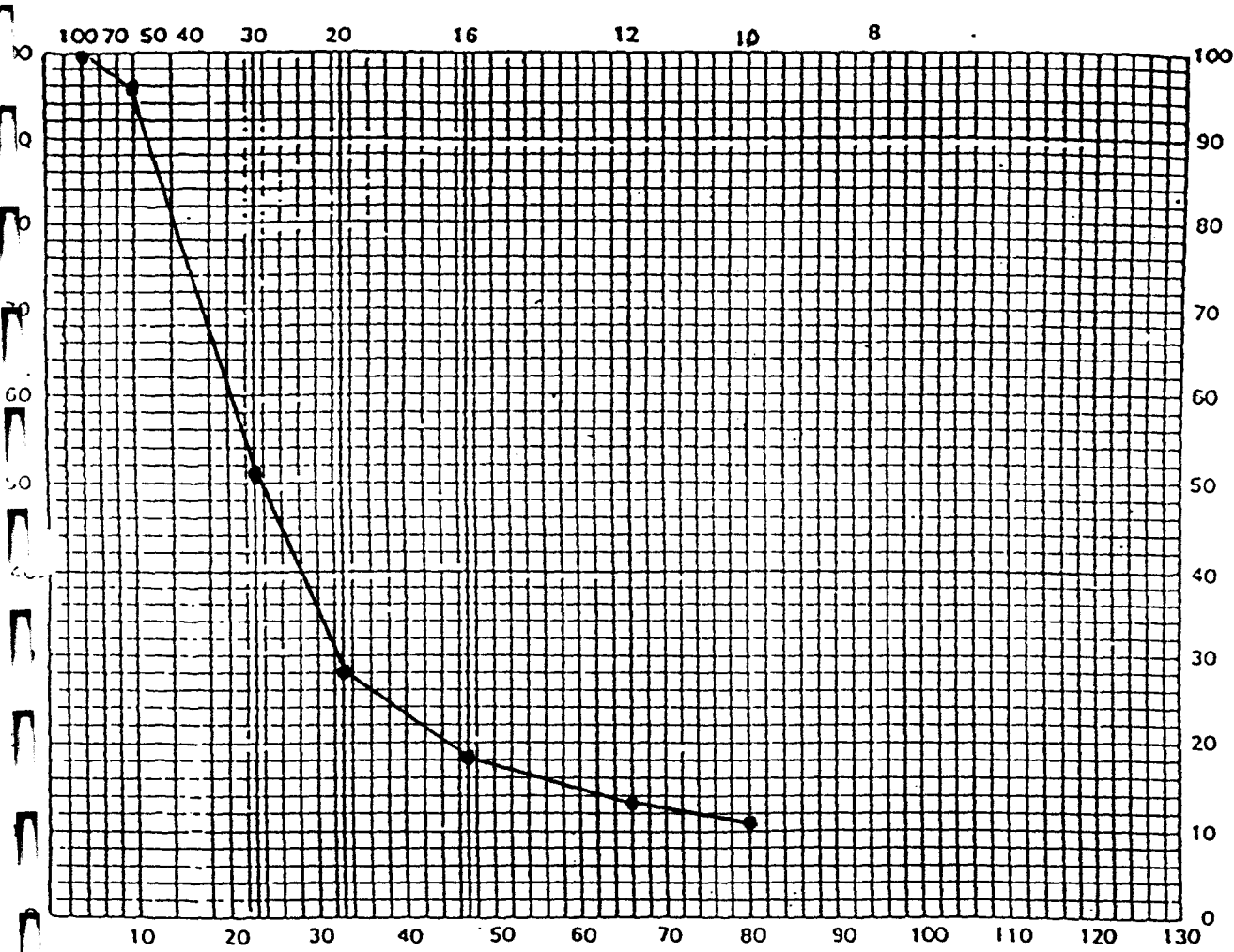
13. Did you notify the owner of the need to permanently abandon and fill all unused wells on this property?
 Yes No If no, explain _____
 14. Signature of Point Driver or Licensed Supervisory Driller: Mark J. Traut Date Signed: 4/17/01
 Signature of Drill Rig Operator (Mandatory unless same as above): Robbie Terres Date Signed: 2-16-01

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cum-hell State: _____ Zip: _____ Date: _____
 From Well Of: JH1 Driller: _____
 Remarks: 75-80

U.S. STANDARD SIEVE NUMBERS

5'



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 510 grams Brown Sand & Gravel W&B Clean
 Recommended Slot Opening: _____
 Recommended Screen: Dia: 10" In Length: 30 ft

SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED	
10	.094	2.38	60	11
	.066	1.68	70	13
	.047	1.19	95	18
20	.033	0.64	145	28
30	.023	0.60	120	51
	.009	0.25	225	96
STANDARD			20	510

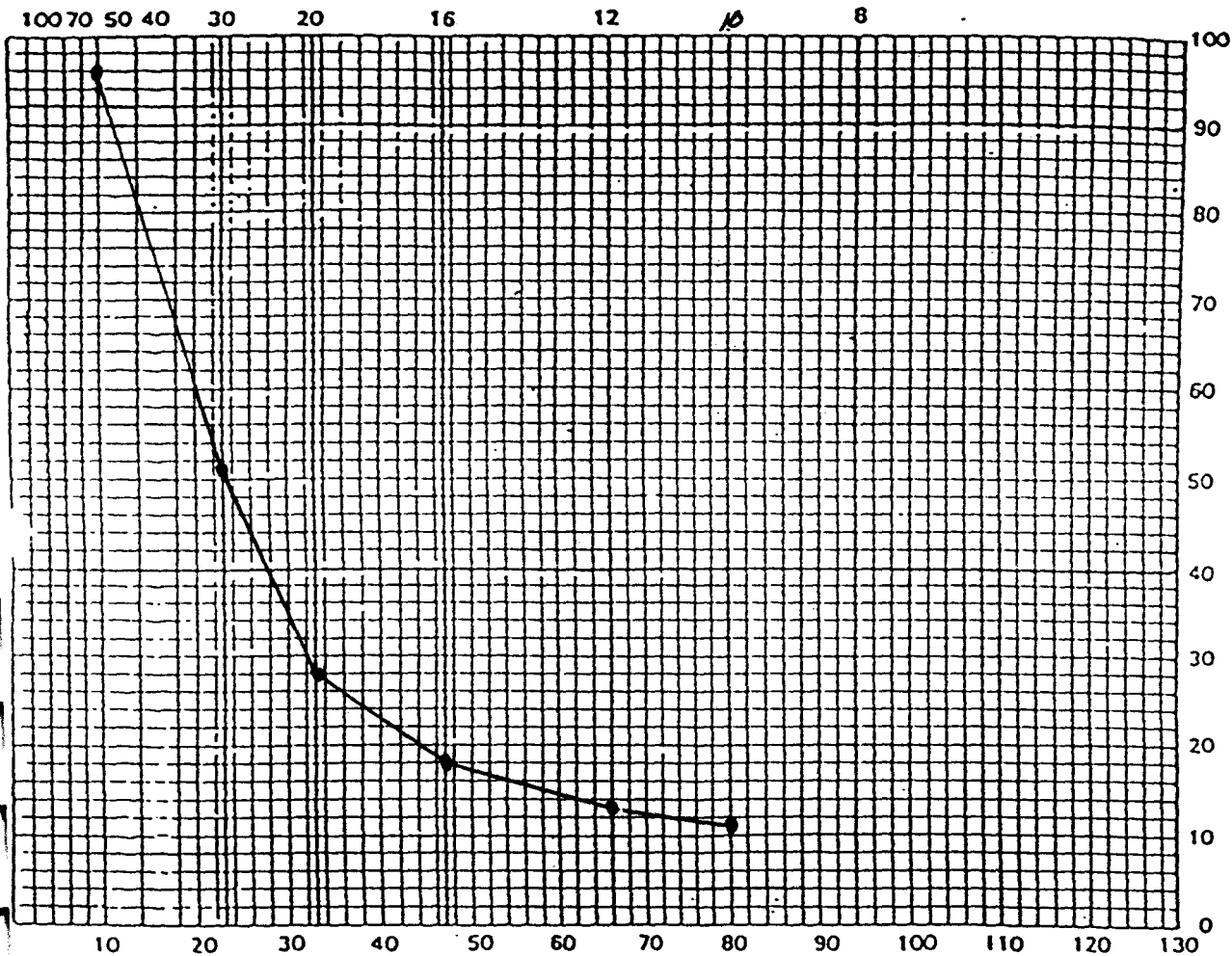
SO MANY CONSIDERATIONS CAN BE MADE...

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cin-bell State: _____ Zip: _____ Date: _____
 From Well Of: JH1 Driller: _____
 Remarks: 80-85

U.S. STANDARD SIEVE NUMBERS

(5')



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 510 Grains Brown Sand & Gravel w/2 Clean

Recommended Slot Opening: _____
 Recommended Screen: Dia: 10" In Length: 30 ft

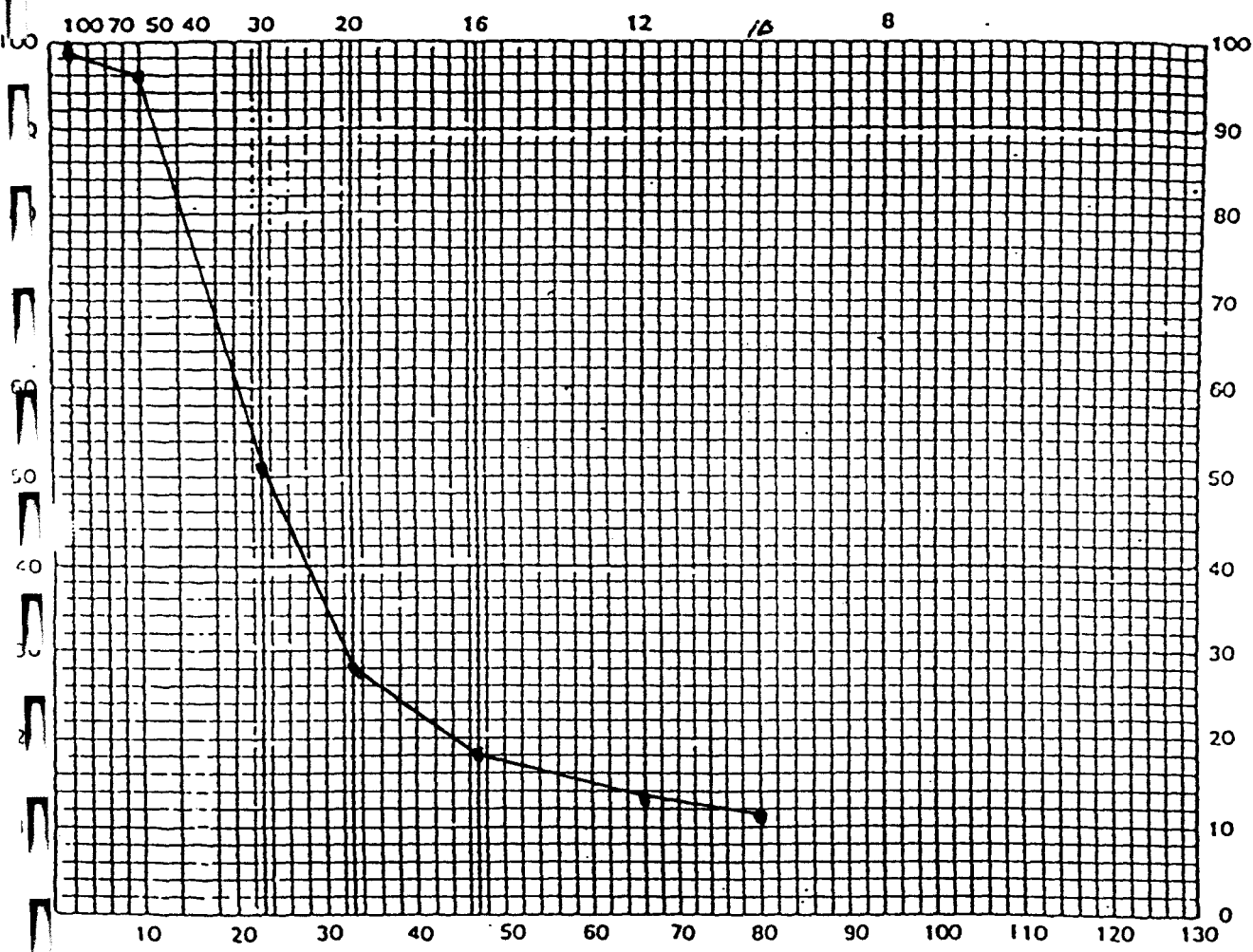
SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED		
10	.094	2.38	60	60	11
20	.066	1.68	10	70	13
30	.047	1.19	25	95	18
40	.033	0.84	50	145	28
60	.023	0.60	120	265	51
80	.009	0.25	225	490	46
STRANDED			7A	51A	

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cimbell State: _____ Zip: _____ Date: _____
 From Well Of: TH1 Driller: _____
 Remarks: 85-90

U.S. STANDARD SIEVE NUMBERS

5'



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 510 Grains Brown Sand & Gravel w/ R Clean
 Recommended Slot Opening: _____
 Recommended Screen: Dia: 10" In Length: 30 ft

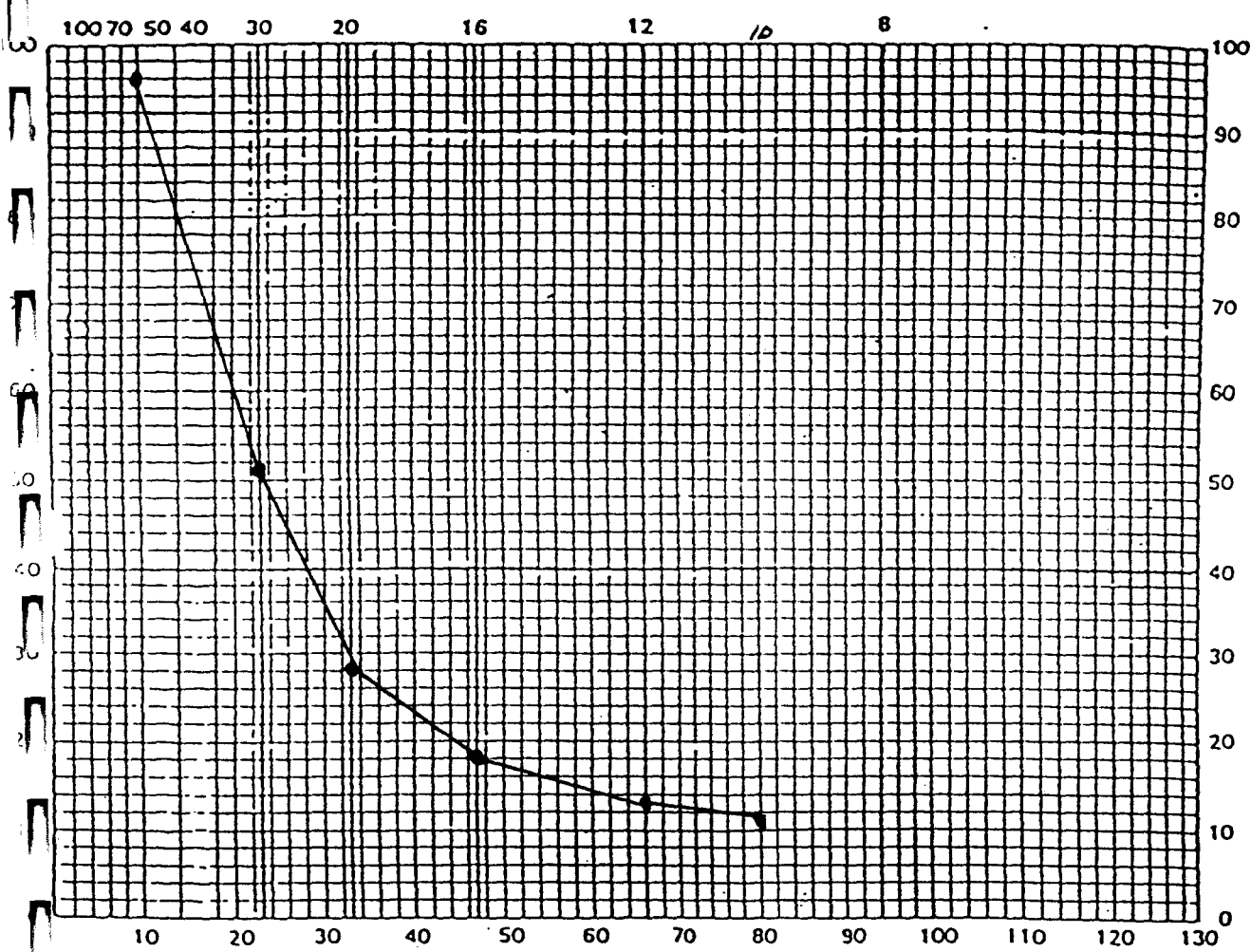
SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED		
10	.094	2.38	60	60	11
	.066	1.68	10	70	13
	.047	1.19	25	95	18
20	.033	0.84	50	145	28
30	.023	0.60	120	265	51
40	.009	0.25	225	490	96
50			700		

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cimbell State: _____ Zip: _____ Date: _____
 From Well Of: TH1 Driller: _____
 Remarks: 90-95

U.S. STANDARD SIEVE NUMBERS

5'



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 510 Grams Brown Sand & Gravel w/ clean
 Recommended Slot Opening: _____
 Recommended Screen: Dia: 10 In Length: 30 ft

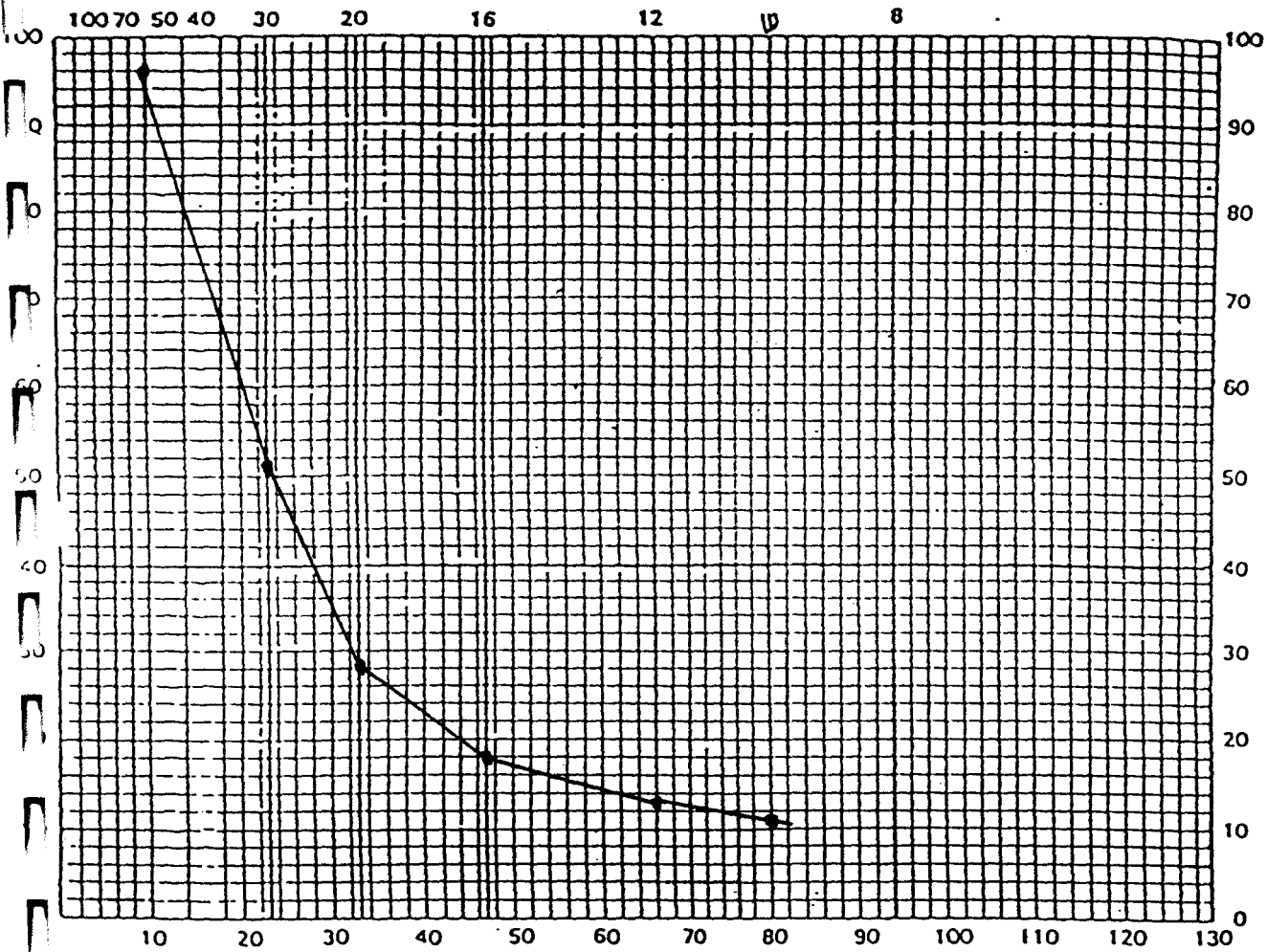
SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED		
100	.094	2.38	100	100	11
	.066	1.68	10	70	13
	.047	1.19	25	45	18
20	.033	0.84	50	45	28
30	.023	0.60	120	26	51
40	.009	0.25	225	490	96
ASTM 100			7A		

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cimbell State: _____ Zip: _____ Date: _____
 From Well Of: TH1 Driller: _____
 Remarks: 95-100

U.S. STANDARD SIEVE NUMBERS

51



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 510 Grains Brown Sand & Gravel WR Clean

Recommended Slot Opening: _____

Recommended Screen: Dia: 10" In Length: 30 ft

SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED		
10	.094	2.38	100	100	11
20	.075	1.90	10	90	13
30	.060	1.52	25	75	16
40	.047	1.19	50	50	28
60	.025	0.60	120	265	51
100	.009	0.25	225	490	46
200			711		

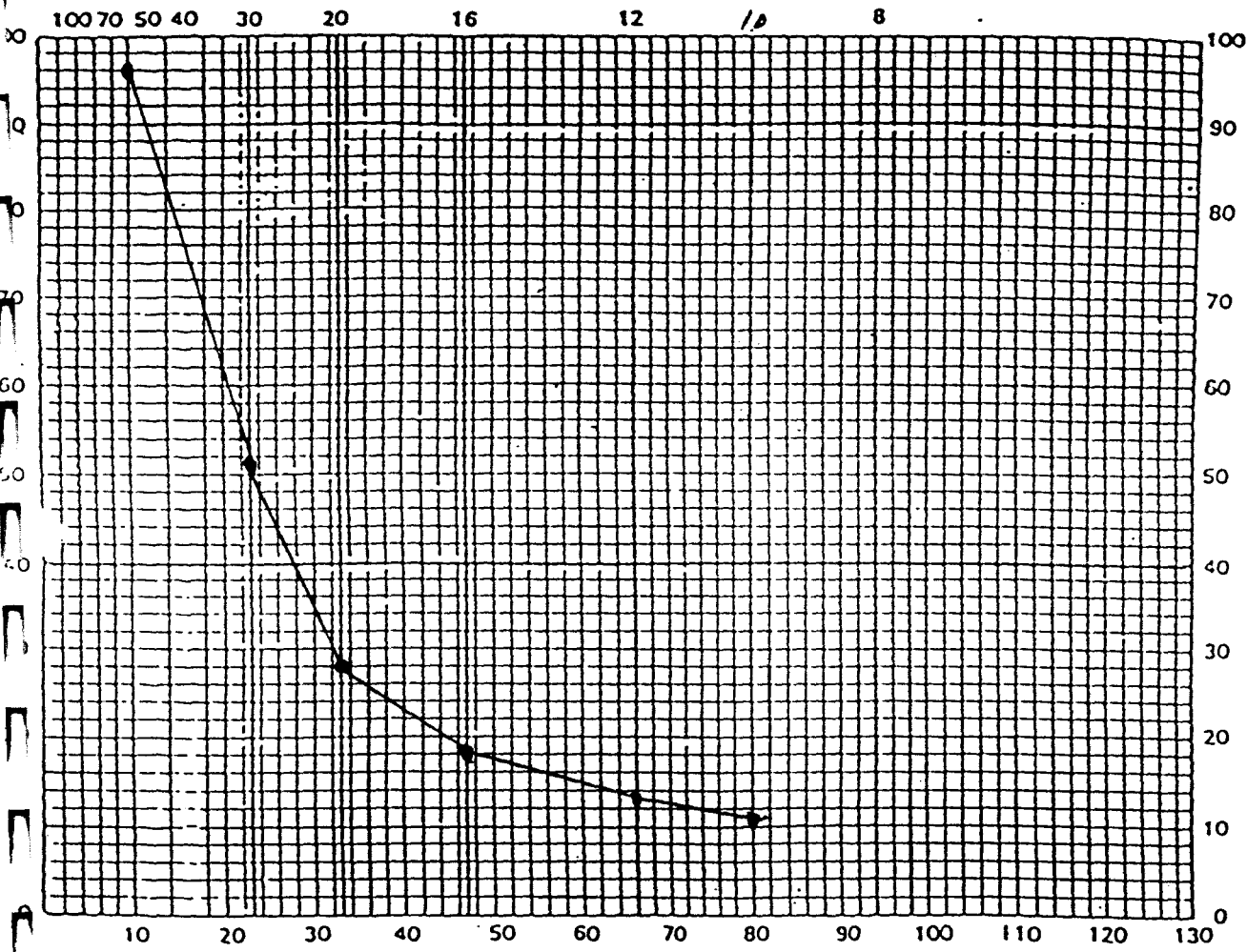
ASTM D 1585

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cambell State: _____ Zip: _____ Date: _____
 From Well Of: TH 1 Driller: _____
 Remarks: 100-105

U.S. STANDARD SIEVE NUMBERS

5'



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 510 Grains Brown Sand & Gravel W/ Clean
 Recommended Slot Opening: _____
 Recommended Screen: Dia: 10 In Length: 30 ft

SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED		
10			100	100	11
20	.094	2.38	10	70	13
30	.066	1.68	25	45	18
40	.047	1.19	50	145	28
50	.033	0.84	120	265	51
60	.023	0.60	225	490	46
75	.009	0.25	20	510	12

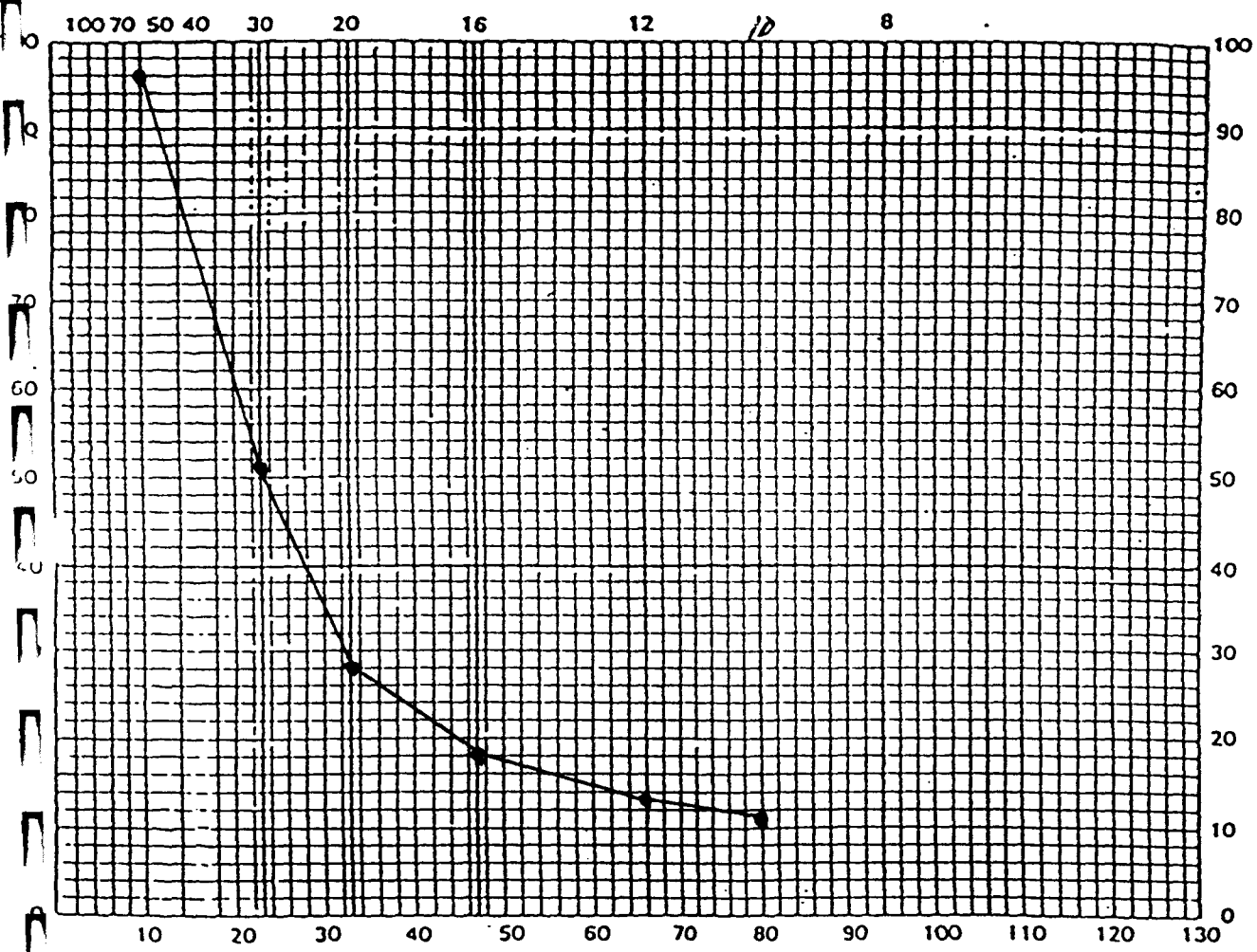
MANY CONSIDERATIONS ENTER INTO THE...

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cumbe II State: _____ Zip: _____ Date: _____
 From Well Of: TH1 Driller: _____
 Remarks: 105-110

U.S. STANDARD SIEVE NUMBERS

5'



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 510 Grams Brown Sand & Gravel was cleaned
 Recommended Slot Opening: _____
 Recommended Screen: Dia: 10 In Length: 30 ft

SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED		
10					
10	.094	2.38	60	60	11
20	.075	1.90	70	70	13
30	.060	1.50	75	75	18
40	.050	1.18	85	85	28
60	.025	0.84	95	95	51
100	.0075	0.25	100	100	96
STANDARD			100	100	100

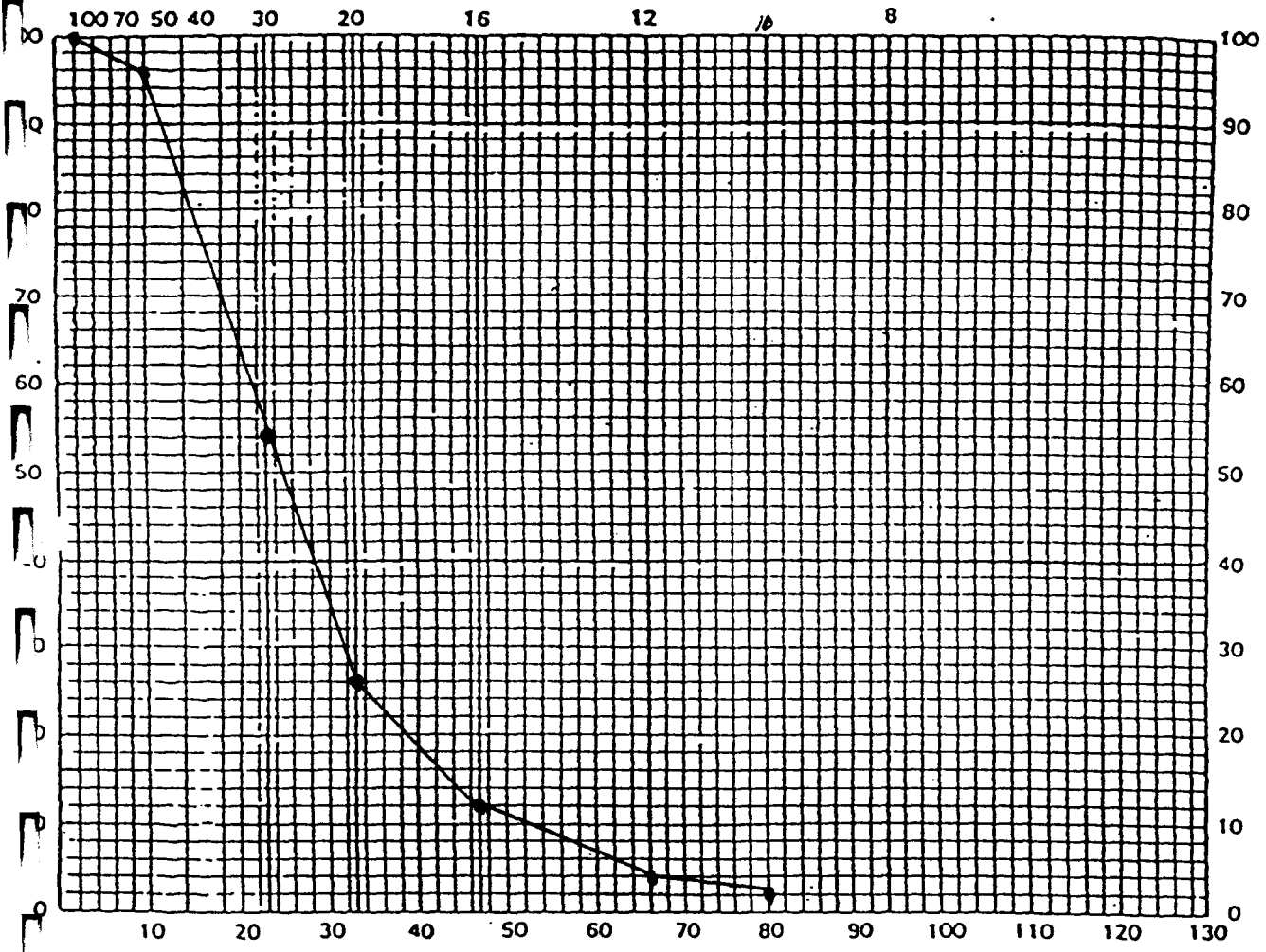
MANY CONSIDERATIONS ENTER INTO THE...

SAND ANALYSIS REPORT

Sample Sent In By: _____
 Job Name: Cambell State: _____ Zip: _____ Date: _____
 From Well Of: THI Driller: _____
 Remarks: 110-115

U.S. STANDARD SIEVE NUMBERS

5'



Slot Opening And Grain Size, In Thousandths Of An Inch

Notes: 515 Grains Brown Sand & Gravel w/ Clean water
 Recommended Slot Opening: _____
 Recommended Screen: Dia: 10 In Length: 30 ft

SIEVE NO.	SIEVE INCHES	OPENING MM.	CUMULATIVE % RETAINED	
10	.094	2.38	15	15
15	.066	1.68	10	25
20	.047	1.19	40	65
30	.033	0.84	70	135
40	.023	0.60	145	280
60	.009	0.25	215	495
ASTRANIC 10			20	515
				100

SO MANY CONSIDERATIONS ENTERED INTO THE...

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date 2/ Company performing test Davy Engineering/Trant Well Measured by _____

Well No MW-2 Distance from pumping well 55' Type of test _____ Test No _____

Measuring equipment _____

Time Data		Water Level Data			Discharge Data		Comments on factors affecting test data
Pump on: Date _____ Time _____ (P)	Static water level <u>33.44</u>	How Q measured _____					
Pump off: Date _____ Time _____ (P)	Measuring point <u>T.O.C</u>	Depth of pump/air line _____					
Duration of aquifer test: Pumping _____ Recovery _____	Elevation of measuring point _____	Previous pumping? Yes _____ No _____			Duration _____ End _____		

Date	Clock time	Time since pump started t	Time since pump stopped t'	t/t'	Water level measurement	Correction or Conversion	Water level	Water level change s or s'	Discharge measurement	Rate	
2/23		0.0			33.42						
		0.5			34.08						
		1.0			34.11						
		1.5			34.12						
		2.0			34.12						
		2.5			34.12						
		3.0			34.13						
		3.5			34.13						
		4.0			34.13						
		4.5			34.14						
		5.0			34.14						
		5.5			34.14						
		6.0			34.145						
		6.5			"						
		7.0			"						
		7.5			34.15						
		8.0			"						
		8.5			34.16						
		9.0			34.16						
		9.5			34.165						
		10.0			34.17						
		11.0			34.17						
		12.0			34.18						
		13.0			34.18						
		14.0			34.19						
		15.0			34.19						
		16.0			34.19						
		17.0			34.19						

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date _____ Company performing test _____ Measured by _____

Well No _____ Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data	Water Level Data	Discharge Data	Comments on factors affecting test data
Pump on: Date _____ Time _____ (t)	Static water level _____	How Q measured _____	
Pump off: Date _____ Time _____ (t')	Measuring point _____	Depth of pump/air line _____	
Duration of aquifer test: Pumping _____ Recovery _____	Elevation of measuring point _____	Previous pumping? Yes _____ No _____ Duration _____ End _____	

Date	Clock time	Time since pump started/stopped		t/t'	Water level measurement	Correction of Conversion	Water level	Water level change s or s'	Discharge measurement	Rate
		t	t'							
		19.0			34.20					
		20			34.21					
		22			34.21					
		24			34.22					
		26			34.22					
		28			34.23					
		30			34.24					
		35			34.25					
		40			34.26					
		45			34.27					
		50			34.28					
		55			34.28					
		60			34.29					
		70			34.31					
		80			34.325					
		90			34.34					
		100			34.34					
		110			34.36					
		120			34.36					
		140			34.39					
		160			34.41					
		180			34.43					
		200			34.45					
		220			34.46					
		240			34.47					
		270			34.49					
		300			34.50					
		330			34.52					
		360			34.53					

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date _____ Company performing test _____ Measured by _____

Well No MW-2 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data			Water Level Data			Discharge Data		Comments on factors affecting test data
Pump on: Date _____ Time _____ (r)	Static water level _____	How Q measured _____						
Pump off: Date _____ Time _____ (r)	Measuring point _____	Depth of pump/air line _____						
Duration of aquifer test: Pumping _____ Recovery _____	Elevation of measuring point _____	Previous pumping? Yes _____ No _____			Duration _____ End _____			

Date	Clock time	Time since pump started/stopped		Water level measurement	Correction of Conversion	Water level change s or s'	Discharge measurement	Rate
		t	t'					
		390		30 <u>N.A.</u>				
		420		↓ 34.56				
		480		1 hr 34.58				
		540		34.60				
		600		34.62				
		660		34.64				
		720		34.65				
		780		34.67				
		840		34.68				
		900		34.70				
		960		34.71				
		1020		34.73				
2/24	0100	1080		34.74				
		1140		34.75				
		1200		34.76				
		1260		34.78				
		1320		34.78				
		1380		34.80				
	0700	1440		↓ 34.81				
		1560		2 hr 34.83				
		1680		34.85				
		1800		34.86				
		1920		34.86				
		2040		34.89				
	1900	2160		↓ 34.91				
		2280		3 hr 34.92				
2/25		2530		34.93				
		2700		34.95				
		2980		↓ 34.97				

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date 2/ Company performing test Davy Engineering / Trout Well Measured by _____

Well No MW-3 Distance from pumping well 33.75 Type of test _____ Test No _____

Measuring equipment _____

Time Data			Water Level Data			Discharge Data			Comments on factors affecting test data
Pump on: Date _____ Time _____ (P)	Static water level <u>32.28</u>	How Q measured _____				Depth of pump/air line _____			
Pump off: Date _____ Time _____ (P)	Measuring point _____	Previous pumping? Yes _____ No _____				Duration _____ End _____			
Duration of aquifer test _____	Elevation of measuring point _____								
Pumping _____	Recovery _____								

Date	Clock time	Time since pump started/stopped		Water level measurement	Correction or Conversion	Water level change s or s'	Discharge measurement	Rate	Test well
		t	t'						
2/23	0700			32.28		✓		706 gpm	32.68
	0.5			33.36		1.08 ✓			
	1.0			33.37		.01			
	1.5			33.38		.01			
	2.0			33.38		0 ✓			
	2.5			33.38		0			
	3.0			33.39		.01			
	3.5			33.39		0			
	4.0			33.39		0			
	4.5			33.40		.01			
	5.0			33.41		.01 ✓			
	5.5			33.41		0			
	6.0			33.41		0			
	6.5			33.41		0			
	7.0			33.41		0			
	7.5			33.42		.01			
	8.0			33.42		0			
	8.5			33.42		0			
	9.0			33.43		.01 ✓			
	9.5			33.43		0			
	10.0			33.43		0			
	11.0			33.43		0			
	12.0			33.43		0			
	13.0			33.44		.01			
	14.0			33.44		0			
	15.0			33.45		.01 ✓			
	16.0			33.45		0			
	17.0			33.45		0			

AQUIFER TEST DATA

at Town of Campbell Address _____ County LaCrosse State WI

Company performing test _____ Measured by _____

Well No MW-3 Distance from pumping well 33.75 Type of test _____ Test No _____

Measuring equipment _____

Time Data				Water Level Data			Discharge Data			Comments on factors affecting test data
Pump on Date	Time	(<i>t</i>)		Static water level	<u>32.28</u>		How Q measured			
Pump off Date	Time	(<i>t'</i>)		Measuring point			Depth of pump/air line			
Duration of aquifer test	Pumping		Recovery	Elevation of measuring point			Previous pumping? Yes <input type="checkbox"/> No <input type="checkbox"/>	Duration	End	

Date	Clock time	Time since pump started <i>t</i>	Time since pump stopped <i>t'</i>	1/f	Water level measurement	Correction or Conversion	Water level change		Discharge measurement	Rate	Test well	
							s or s'	s or s'				
2/23	390								19.2"		46.91	pumping 19.2"
	430											
	480		1 hr				33.95	.02			46.96	
	540						33.87	.02			46.92	
	600						33.88	.01			46.98	
	660						33.91	.03			47.01	
	720						33.93	.02	1.65'		47.03	
	780						33.95	.02				
	840						33.95	0			47.09	
	900						33.97	.02				
	960						33.99	.02			47.14	
	1020						34.00	.01				
2/24	0100	1080					34.00	.02			47.20	
	1140						34.00	0				
	0300	1200					34.04	.02			47.24	
		1260					34.05	.01				
	0500	1320					34.06	.01			47.28	
		1380					34.06	0				
	0700	1440					34.07	.01			47.30	
	0900	1560		2 hr			34.10	.03			47.33	
	1100	1680					34.12	.02			47.35	
	1300	1800					34.14	.02			47.37	
	1500	1920					34.16	.02			47.40	H ₂ O Colum = 1.65' ² 0:50'
	1700	2040					34.17	.01			47.44	
	1900	2160					34.18	.01			47.43	
	2200	2340		3 hr			34.20	.02			47.46	
2/25	0100	2520					34.21	.01			47.47	
	0400	2700					34.22	.01			47.47	90 80 42
	0700	2880					34.24				47.49	34.75 34.40

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County La Crosse State WI

Date 4/4/01 Company performing test Davy Engineering/Thru well Measured by _____

Well No MW-3 Distance from pumping well 32.75 Type of test Recovery Test No _____

Measuring equipment _____

Time Data	Water Level Data	Discharge Data	Comments on factors affecting test data
Pump on: Date _____ Time _____ (r)	Static water level _____	How Q measured _____	
Pump off: Date <u>4/4/01</u> Time <u>1000</u> (r)	Measuring point <u>TOL</u>	Depth of pump/air line _____	
Duration of aquifer test: Pumping _____ Recovery <u>2 hrs</u>	Elevation of measuring point <u>664.71</u>	Previous pumping? Yes _____ No _____	
		Duration _____ End _____	

Date	Clock time	Time since pump started		ft	Water level measurement	Correction or Conversion	Water level	Water level change s or s'	Discharge measurement	Rate	
		r	r								
4/4			0.5		33.93			.55'			level @ shutdown = 34.48
				1.0		33.77			.16'		
				1.5		33.76			.01'		
				2.0		33.76			-		
				2.5		33.75			.01'		
				3.0		33.75			-		
				3.5		33.74			.01'		
				4.0		33.74			-		
				4.5		33.73			.01'		
				5.0		33.73			-		
				5.5		33.72			.01'		
				6.0		33.72			-		
				6.5		33.71			.01'		
				7.0		33.71			-		
				7.5		33.71			-		
				8.0		33.70			.01'		
				8.5		33.70			-		
			9.0		33.70			-			
			9.5		33.69			.01'			
1010			10.0		33.69			-			
				11.0		33.67		.02'			
				12.0		33.67		-			
				13.0		33.67		-			
				14.0		33.66		.01'			
1015			15.0		33.66			-			
				16.0		33.66		-			
				17.0		33.66		-			
				18.0		33.65		.01'			
			19.0		33.65			-			

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County _____ State _____

Date 4/4/01 Company performing test _____ Measured by _____

Well No. MW-3 Distance from pumping well _____ Type of test _____ Test No. _____

Measuring equipment _____

Time Data	Water Level Data	Discharge Data	Comments on factors affecting test data
Pump on: Date _____ Time _____ (r)	Static water level _____	How Q measured _____	
Pump off: Date _____ Time _____ (r)	Measuring point _____	Depth of pump/air line _____	
Duration of aquifer test: Pumping _____ Recovery _____	Elevation of measuring point _____	Previous pumping? Yes _____ No _____ Duration _____ End _____	

Date	Clock time	Time since pump started/stopped		1/r	Water level measurement	Correction or Conversion	Water level	Water level change s or s'	Discharge measurement	Rate		
		1	2									
4/4	1020		20		33.65			-				
			22		33.64			.01				
			24		33.63			.01				
			26		33.63			-				
			28		33.62			.01				
			30		33.62			-				
	1030		35			33.60			.02			
			40			33.58			.02			
			45			33.57			.01			
			50			33.55			.02			
			55			33.54			.01			
			60			33.52			.02			
1100		70			33.50			.02				
		80			33.50			-				
	1130		90			33.50			-			turned pump back on @ 1130
			100									took a full round of samples
			110									@ 1200 - pumped 30,000 galls
			120									before sampling.

CAMPBELL TEST WELL

(Theis Distance Drawdown Analysis)

r ft	s ft	Z(u)	u	W(u)	T gpd/ft	S
33.75	1.61	0.9255	5.2E-05	9.281	492185.26	0.03624690
55.00	1.46	0.9041	4.1E-04	7.224	422455.62	0.09170144
78.50	1.40	0.9000	5.5E-04	6.927	422421.45	0.06061308
Average ==>					445687.44	0.06285381

Q = pumping rate = 745.00 gpm

t = time duration of pump test = min = 4320.00 = days = 3.0000

Aquifer thickness = 115.00 ft

Slope = 0.88 ft

Transmissivity = T = 445687.44 gpd/ft = 59722.12 sq ft/day = 5526.52 sq m/day

Hydraulic conductivity = K = 3875.54 gpd/sq ft = 519.32 ft/day = 158.90 m/day

S = Storativity = 0.06285381

r(o) = limit of cone of depression at steady-rate = 2526.22 ft

s(o) = zero drawdown criterion = ft = 0.01

r(L) = transient limit of cone of depression = ft = 4714.98

W(u) for s(o) = dimensionless = 0.05220

u for s(o) = dimensionless = 1.95425

s(p) = drawdown in pumping well at 100% efficiency = 3.07 ft

Q/s = Specific capacity of pumping well at 100% efficiency = 242.44 gpm/ft

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date 3/22 - 4/4/01 Company performing test Darcy Engineering / Trant Well Measured by _____

Well No. MW-3 Distance from pumping well 33.75 Type of test Steady Rate Test No. _____

Measuring equipment _____

Time Data		Water Level Data			Discharge Data		Comments or factors affecting test data
Pump on: Date _____ Time _____ (H)	_____ (M)	Static water level <u>32.22</u>	_____	_____	How Q measured _____	_____	
Pump off: Date _____ Time _____ (H)	_____ (M)	Measuring point _____	_____	_____	Depth of pump/air line _____	_____	
Duration of aquifer test: Pumping _____ Recovery _____	_____	Elevation of measuring point <u>664.71</u>	_____	_____	Previous pumping? Yes _____ No _____	Duration _____ End _____	

Date	Clock time	Time since pump started (H)	Time since pump stopped (M)	Water level measurement	Correction or Conversion	Water level change (s or f)	Discharge measurement	Rate	TEST WELL TOC ELEV 665.06
<u>3/22</u>	<u>0800</u>			<u>32.22</u>					<u>32.34</u>
		<u>0.5</u>		<u>32.71</u>		<u>.49</u>			
		<u>1.0</u>		<u>32.74</u>		<u>.52</u>			
		<u>1.5</u>		<u>32.75</u>		<u>.53</u>			
		<u>2.0</u>		<u>32.75</u>					
		<u>2.5</u>		<u>32.76</u>		<u>.54</u>			
		<u>3.0</u>		<u>32.76</u>					
		<u>3.5</u>		<u>32.77</u>		<u>.55</u>			<u>.072</u>
		<u>4.0</u>		<u>32.77</u>					
		<u>4.5</u>		<u>32.78</u>		<u>.56</u>			
		<u>5.0</u>		<u>32.78</u>					
		<u>5.5</u>		<u>32.79</u>		<u>.57</u>			
		<u>6.0</u>		<u>32.79</u>					
		<u>6.5</u>		<u>32.80</u>		<u>.58</u>			
		<u>7.0</u>		<u>32.80</u>					
		<u>7.5</u>		<u>32.80</u>					
		<u>8.0</u>		<u>32.81</u>		<u>.59</u>			
		<u>8.5</u>		<u>32.81</u>					
		<u>9.0</u>		<u>32.81</u>					
		<u>9.5</u>		<u>32.81</u>					
		<u>10.0</u>	<u>1.0</u>	<u>32.81</u>					
		<u>11.0</u>		<u>32.82</u>		<u>.60</u>			
		<u>12.0</u>		<u>32.83</u>		<u>.61</u>			
		<u>13.0</u>		<u>32.83</u>					
		<u>14.0</u>		<u>32.84</u>		<u>.62</u>			
		<u>15.0</u>		<u>32.84</u>					
		<u>16.0</u>		<u>32.85</u>		<u>.63</u>			
		<u>17.0</u>		<u>32.85</u>					

AQUIFER TEST DATA

253 - 0 - 17

Owner Town of Campbell Address _____ County LaGrange State WI

Date _____ Company performing test _____ Measured by _____

Well No MW-2 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data				Water Level Data				Discharge Data			Comments or factors affecting test data
Pump on: Date _____ Time _____ (P)		Pump off: Date _____ Time _____ (P)		Static water level _____		How Q measured _____		Depth of pump/air line _____			
Duration of aquifer test: Pumping _____ Recovery _____				Measuring point _____		Previous pumping? Yes _____ No _____		Duration _____ End _____			
				Elevation of measuring point _____							

Date	Clock time	Time since pump started	Time since pump stopped	HF	Water level measurement	Correction or Conversion	Water level change s or f	Discharge measurement	Rate		
		19.0			32.86				727 GPM		
0920	20			20	32.87		.65			43.20	
	22				32.87						
	24				32.87						
	26				32.88		.66				
	28				32.88						
	30			50	32.89		.67			43.05	
	35				32.90		.68				
	40				32.91		.69				
	45				32.93		.71			43.10	
	50				32.94		.72				
	55				32.95		.73				
0900	60			10.0	32.96		.74			43.14	Sample well (0902)
	70				32.97		.75				
	80				32.99		.77				
	90				33.01		.79			43.21	
	100				33.02		.80				
	110				33.03		.81				
1000	120				33.05		.83	21.5"	723 GPM	43.28	
	140			20.0	33.08		.86				
	160				33.10		.88				
1100	180				33.12		.90			43.38	Sample well (1103)
	200				33.14		.92				Temp 12.1°C @ 117
	220				33.15		.93				pH 7.15 @ 1130
1200	240			30.0	33.17		.95				
	270				33.21		.99			43.44	
1300	300				33.22		1.0				
	330				33.24		1.02	22.0"	745 GPM		

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date _____ Company performing test _____ Measured by _____

Well No MW-3 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data				Water Level Data				Discharge Data				Comments on factors affecting test data	
Pump on: Date _____ Time _____ (P)		Pump off: Date _____ Time _____ (P)		Static water level <u>23.22'</u>		Measuring point _____		How Q measured _____		Depth of pump/air line _____			
Duration of aquifer test: Pumping _____ Recovery _____				Elevation of measuring point _____				Previous pumping? Yes _____ No _____		Duration _____ End _____			

Date	Clock time	Time since pump started	Time since pump stopped	Water level measurement	Correction or conversion	Water level change	Water level 1 or 2	Discharge measurement	Rate		
		390		30 mg 33.28		1.06					43.59
	1500	420		↓ 33.30		1.08					
	1600	480		1 hr 33.33		1.11		22.0"	745 GPM		43.65
	1700	540		33.36		1.14					43.66
	1800	600		33.38		1.16					Temp - 11.9° @ 1730 pH - 7.35 @ 1730
	1900	660		33.41		1.19					
	2000	720		33.43		1.21					43.72
	2100	780		33.45		1.23					sample well 2000
	2200	840		33.47		1.25					
	2300	900		33.49		1.27					
	2400	960		33.50		1.28					
3/23	0100	1020		33.52		1.30					
	0200	1080		33.53		1.31					43.84
	0300	1140		33.55		1.33					
	0400	1200		33.56		1.34					
	0500	1260		33.57		1.35					
	0600	1320		33.58		1.36		22.0"	745 GPM		43.90
	0700	1380		33.59		1.37					Temp - 11.9° @ 0640 pH - 7.60 @ 0650
	0800	1440		↓ 33.60		1.38					43.91
	1000	1560		2 hr 33.61		1.39					sample well 0800
	1200	1680		33.64		1.42					
	1400	1800		33.65		1.43					
	1600	1920		33.68		1.46					
	1800	2040		33.70		1.48					
	2000	2160		↓ 33.71		1.49					44.00
	2300	2340		3 hr 33.72		1.50					sample well
3/24	0200	2520		33.74		1.52					
	0500	2700		33.75		1.53					63.35 GPM/Ft of Drawdown

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County _____ State _____

Date _____ Company performing test _____ Measured by _____

Well No MW-3 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data		Water Level Data		Discharge Data		Comments on factors affecting test data
Pump on: Date _____ Time _____ (P)	Static water level _____	How Q measured _____	Duration _____ End _____			
Pump off: Date _____ Time _____ (P)	Measuring point _____	Depth of pump/air line _____				
Duration of aquifer test: _____	Elevation of measuring point _____	Previous pumping? Yes _____ No _____				
Pumping _____ Recovery _____						

Date	Clock time	Time since pump started	Time since pump stopped	Duration	Water level measurement	Correction of Conversion	Water level	Water level change 3 or 5'	Discharge measurement	Rate		
	1200	3120		4hrs	33.78			1.56	22.5"	753 GPM	44.13	
	1600	3360			33.78						44.14	
	2000	3600			33.81			1.59			44.14	sampled well
	2400	3840			33.82			1.60			44.15	
3/29	0400	4080			33.87						44.17	
	0800	4320			33.88			1.61	22.5"	753 GPM	44.18	sample well
3/26	0800	5760			33.88				22.25"	749 GPM	44.25	sampled well
3/27	1625				33.93				22.25"	749 GPM	44.30	pH = 7.10 @ 1645
3/29	1430	10470			34.01						44.37	Temp = 12.1°C @ 1645 } 3/27/10
3/29	1530	10530			34.22				40"	1,000 GPM	47.93	Increased pumping rate to 1,000 GPM @ 3:10
3/29	1544	10544							40"	1,000 GPM	47.93	
3/30	0900	11520			34.42				40"	"	48.19	
3/31	1010	13090			34.51				40"	"	48.28	
4/1	0900	14400			34.55				40"	"	48.30	
4/2	1000	15960			34.56				40"	"	48.30	
4/4	0932	17372			34.48	2.26			40"	1000 GPM	48.72	
											48.72	
											32.34	
											16.33	

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date 3/22-4/4/01 Company performing test Dany Engineering / Trout Well Measured by _____

Well No MW-2 Distance from pumping well 55.0' Type of test _____ Test No _____

Measuring equipment _____

Time Data	Water Level Data	Discharge Data	Comments on factors affecting test data
Pump on: Date _____ Time _____ (r)	Static water level <u>33.41</u>	How Q measured _____	
Pump off: Date _____ Time _____ (r)	Measuring point _____	Depth of pump/air line _____	
Duration of aquifer test: Pumping _____ Recovery _____	Elevation of measuring point <u>645.82</u>	Previous pumping? Yes _____ No _____	
		Duration _____ End _____	

Date	Clock time	Time since pump started		Water level measurement	Correction or Conversion	Water level change s or f	Discharge measurement	Rate
		t	r					
3/22	0800			33.41				
		0.5		5 mi 33.75				
	8:01	1.0		33.80				
		1.5		33.80				
	8:07	2.0		33.80				
		2.5		33.80				
	8:10	3.0		33.81				
		3.5		33.815				
	8:14	4.0		33.82				
		4.5		33.82				
	0805	5.0		33.83				
		5.5		33.83				
		6.0		33.84				
		6.5		33.84				
		7.0		33.85				
		7.5		33.85				
		8.0		33.86				
		8.5		33.85				
		9.0		33.86				
		9.5		33.87				
	0810	10.0		1 mi 33.87				
		11.0		33.87				
		12.0		33.87				
		13.0		33.87				
		14.0		33.88				
	0815	15.0		33.89				
		16.0		33.89				
		17.0		33.89				

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date _____ Company performing test _____ Measured by _____

Well No MW-2 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data	Water Level Data	Discharge Data	Comments on factors affecting test data
Pump on: Date _____ Time _____ (r)	Static water level _____	How Q measured _____	
Pump off: Date _____ Time _____ (r)	Measuring point _____	Depth of pump/air line _____	
Duration of aquifer test: _____	Elevation of measuring point _____	Previous pumping? Yes _____ No _____	
Pumping _____ Recovery _____		Duration _____ End _____	

Date	Clock time	Time since pump started		t/r	Water level measurement	Correction or Conversion	Water level	Water level change s or s'	Discharge measurement	Rate
		t	r							
		19.0			33.90					
	0820	20		2 min	33.90					
		22			33.92					
		24			33.92					
		26			33.93					
		28			33.94					
	0830	30		5 min	33.94					
		35			33.95					
		40			33.97					
		45			33.97					
		50			33.98					
		55			34.00					
	0900	60		10 min	34.05					
		70			34.02					
		80			34.05					
		90			34.06					
		100			34.07					
		110			34.08					
	1000	120		20 min	34.10					
		140			34.12					
		160			34.15					
	1100	180			34.16					
		200			34.19					
		220			34.20					
	1200	240		30 min	34.22					
		270			34.24					
	1300	300			34.26					
		330			34.28					

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County La Crosse State WI

Date _____ Company performing test _____ Measured by _____

Well No MW-2 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data				Water Level Data				Discharge Data		Comments on factors affecting test data
Pump on: Date _____	Time _____ (r)	Static water level _____		How Q measured _____						
Pump off: Date _____	Time _____ (r)	Measuring point _____		Depth of pump/air line _____						
Duration of aquifer test: Pumping _____	Recovery _____	Elevation of measuring point _____		Previous pumping? Yes _____ No _____			Duration _____ End _____			

Date	Clock time	Time since pump started r	Time since pump stopped r	hr	Water level measurement	Correction or Conversion	Water level	Water level change s or s'	Discharge measurement	Rate
		390			30 wgs 34.32					
	1500	420			↓ 34.34					
	1600	480			1 hr 34.37					
	1700	540			34.40					
	1800	600			34.42					
	1900	660			34.44					
	2000	720			34.46					
	2100	780			34.48					
	2200	840			34.50					
	2300	900			34.52					
	2400	960			34.54					
3/23	0100	1020			34.56					
	0200	1080			34.57					
	0300	1140			34.59					
	0400	1200			34.60					
	0500	1260			34.61					
	0600	1320			34.62					
	0700	1380			34.63					
	0800	1440			↓ 34.64					
	1000	1560			2 hr 34.66					
	1200	1680			34.68					
	1400	1800			34.70					
	1600	1920			34.71					
	1800	2040			34.72					
	2000	2160			↓ 34.73					
	2300	2340			3 hr 34.75					
3/24	0200	2520			34.77					
	0500	2700			34.78					

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County _____ State _____

Date _____ Company performing test _____ Measured by _____

Well No MW-2 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data				Water Level Data			Discharge Data		Comments on factors affecting test data
Pump on: Date _____ Time _____ (P)		Pump off: Date _____ Time _____ (P)		Static water level _____		How Q measured _____			
Duration of aquifer test:		Elevation of measuring point _____		Depth of pump/air line _____		Previous pumping? Yes _____ No _____			
Pumping _____ Recovery _____				Duration _____ End _____					

Date	Clock time	Time since pump started r	Time since pump stopped r	1/r	Water level measurement	Contraction or Conversion	Water level	Water level change s or s'	Discharge measurement	Rate	
	1200	3120			4 hrs 34.81						
	1600	3360			34.93						
	2000	3600			34.94						
	2400	3840			34.85						
3/25	0400	4080			34.86						
	0600	4320			34.87						
3/26	0800	5760			34.91						
3/27	1625				34.96						
3/29	1430	10470			35.05						
3/29	1530	10530			35.21						Increase pumping rate to 1000 gpm @ 3:10
3/29	1544	10544									
3/30	0800	11520			35.42						
3/31	1010	13090			35.51						
4/1	0900	14400			35.54						
4/2	1100	15960			35.53						
4/4	0932	17572			35.44						

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date 3/22-4/4/01 Company performing test Daisy Engineering / Trant Well Measured by _____

Well No MW-1 Distance from pumping well 78.5' Type of test _____ Test No _____

Measuring equipment _____

Time Data		Water Level Data		Discharge Data		Comments on factors affecting test data
Pump on: Date _____ Time _____ (r)	Stable water level <u>33.18</u>	How Q measured _____				
Pump off: Date _____ Time _____ (r)	Measuring point _____	Depth of pump/air line _____				
Duration of aquifer test: Pumping _____ Recovery _____	Elevation of measuring point <u>645.76</u>	Previous pumping? Yes _____ No _____				
		Curation _____ End _____				

Date	Clock time	Time since pump started (r)	Time since pump stopped (r)	t/r	Water level measurement	Correction or Conversion	Water level change s or s'	Discharge measurement	Rate
3/22	0800				33.18				
		0.5			33.48				
		1.0			33.49				
		1.5			33.50				
		2.0			33.51				
		2.5			33.51				
		3.0			33.52				
		3.5			33.53				
		4.0			33.53				
		4.5			33.53				
	0805	5.0			33.53				
		5.5			33.54				
		6.0			33.54				
		6.5			33.54				
		7.0			33.55				
		7.5			33.55				
		8.0			33.56				
		8.5			33.56				
		9.0			33.56				
		9.5			33.57				
	0810	10.0		1 min	33.57				
		11.0			33.57				
		12.0			33.58				
		13.0			33.58				
		14.0			33.59				
	0815	15.0			33.59				
		16.0			33.60				
		17.0			33.60				

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date _____ Company performing test _____ Measured by _____

Well No MW-1 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data				Water Level Data				Discharge Data		Comments on factors affecting test data
Pump on: Date _____ Time _____ (H)				Static water level _____				How Q measured _____		
Pump off: Date _____ Time _____ (H)				Measuring point _____				Depth of pump/air line _____		
Duration of aquifer test: _____				Elevation of measuring point _____				Previous pumping? Yes _____ No _____		
Pumping _____	Recovery _____							Duration _____ End _____		

Date	Clock time	Time since pump started r	Time since pump stopped r	1/r	Water level measurement	Correction at conversion	Water level	Water level change s or s'	Discharge measurement	Rate	
		19.0			33.61						
0820	20			2 min	33.61						
	22				33.62						
	24				33.62						
	26				33.63						
	28				33.63						
0830	30			5 min	33.64						
	35				33.64						
	40				33.66						
	45				33.68						
	50				33.69						
	55				33.70						
0900	60			10 min	33.71						
	70				33.73						
	80				33.74						
	90				33.75						
	100				33.76						
	110				33.78						
1000	120			20 min	33.79						
	140				33.81						
	160				33.84						
1100	180				33.86						
	200				33.88						
	220				33.90						
1200	240			30 min	33.92						
	270				33.94						
1300	300				33.96						
	330				33.98						

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County LaCrosse State WI

Date _____ Company performing test _____ Measured by _____

Well No MW-1 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data				Water Level Data				Discharge Data		Comments on factors affecting test data
Pump on: Date _____ Time _____ (r)		Pump off: Date _____ Time _____ (r)		Static water level _____		How Q measured _____		Depth of pump/air line _____		
Duration of aquifer test: Pumping _____ Recovery _____				Measuring point _____				Previous pumping? Yes _____ No _____		
				Elevation of measuring point _____				Duration _____ End _____		
Date	Clock time	Time since pump started	Time since pump stopped	Water level measurement	Correction or Conversion	Water level	Water level change s or s'	Discharge measurement	Rate	
		390		30 min 34.02						
		430		↓ 34.04						
		480		1 hr 34.06						
		540		34.10						
		600		34.12						
		660		34.14						
		720		34.17						
		780		34.18						
		840		34.20						
		900		34.22						
		960		34.23						
		1020		34.25						
		1080		34.26						
		1140		34.28						
		1200		34.30						
		1260		34.30						
		1320		34.32						
		1380		34.33						
	0800	1440		↓ 34.34						
	1000	1560		2 hr 34.35						
	1210	1680		34.38						
	1400	1800		34.39						
	1600	1920		34.40						
	1800	2040		34.42						
	2000	2160		↓ 34.44						
	2300	2340		3 hr 34.45						
3/24	0200	2520		34.47						
	0500	2700		34.49						

AQUIFER TEST DATA

Owner Town of Campbell Address _____ County _____ State _____

Date _____ Company performing test _____ Measured by _____

Well No MW-1 Distance from pumping well _____ Type of test _____ Test No _____

Measuring equipment _____

Time Data	Water Level Data	Discharge Data	Comments on factors affecting test data
Pump on: Date _____ Time _____ (L)	Static water level _____	How Q measured _____	
Pump off: Date _____ Time _____ (L)	Measuring point _____	Depth of pump/air line _____	
Duration of aquifer test: Pumping _____ Recovery _____	Elevation of measuring point _____	Previous pumping? Yes _____ No _____	
		Duration _____ End _____	

Date	Clock time	Time since pump started		1/r	Water level measurement	Correction or Conversion	Water level	Water level change s or f	Discharge measurement	Rate	
		t	r								
	1200	3120		4hrs	34.51						
	1600	3360			34.53						
	2000	3600			34.53						
	2400	3840			34.55						
3/25	0400	4080			34.56						
	0800	4320			34.58						
3/26	0800	5760			34.62						
3/27	1625	7705			34.67						
3/29	1430	10470			34.76						
3/29	0530	10530			34.88						Increase pumping rate to 1,000 gpm @ 5:10
3/29	1544	10544									
5/30	0800	11970			35.09						
3/31	1010	13090			35.20						
4/1	0900	14400			35.23						
4/2	1000	15960			35.23						
4/4	0932	17372			35.17						

The high level of manganese observed during drilling operations appears to be restricted to below 110 feet. Samples obtained at 110 exhibited 48 ppb while a sample at 130 exhibited 769 ppb.

The bottom of the test well screen was initially set at 115 feet, which was just above the top of a fining upward sequence. Unfortunately, the pump test revealed that at 115 feet the well was producing 219 ppb after 1 hour, which rose to approximately 320 ppb after approximately 48 hours of pumping.

This suggests that a large manganese plume exists between depths of approximately 112 feet and 150 feet, an interval of 38 feet. The horizontal permeability, or hydraulic conductivity is generally on the order of 10 times greater than the vertical permeability. By pulling the bottom of the screen up to 90 feet a vertical separation of approximately 22 feet over the manganese zone is gained. Pumping the well for 8 days at 745 GPM and an additional 4 days at 1000 GPM failed to pull any manganese from the deeper horizon.

Prior to shut down of the pump test on April 4, 2001, the Test Well was sampled for a full drinking water suite. The analytical report in its entirety is presented as Appendix H. A comparison with La Crosse wells #23, 24 & 26 for select parameters is presented below:

	<u>TEST WELL</u>	<u>La Crosse Well #26</u>	<u>La Crosse Well #24</u>	<u>La Crosse Well #23</u>
Alkalinity	139 ppm	160 ppm	138 ppm	140 ppm
Hardness	179 ppm	180 ppm	153 ppm	160 ppm
Iron	<0.021 ppm	0.009 ppm	0.144 ppm	0.18 ppm
Manganese	<0.008 ppm	0.240 ppm	0.102 ppm	0.150 ppm
Chloride	32.5 ppm	21.0 ppm	7.4 ppm	5.4 ppm
Nitrate	3.40 ppm	1.10 ppm	0.84 ppm	2.1 ppm
Sulfate	18.0 ppm	17.0 ppm	10.0 ppm	11.0 ppm
Sodium	12.1 ppm	10.0 ppm	4.21 ppm	4.5 ppm

Water quality reflects a calcium, magnesium, and bicarbonate water. The waters can be classified as hard (153 – 180 mg/L). Generally the waters exhibit low iron (<0.021 to 0.144 mg/L) and varying manganese (.008 - .260 mg/L), low chlorides (5.4 to 32.5 mg/L), sulfates 10 – 18 mg/L) and nitrates .084 to 3.40 mg/L).

9.0 CONCLUSION AND RECOMMENDATIONS

Based on these results, it appears that a municipal well can be located at this site. To produce 2, 000 GPM, a 26" diameter gravel packed well with a 30' screen at 60 ft. to 90 ft. is proposed. There is some risk that extended use will result in increasing manganese concentrations. If this occurs, treatment may be necessary in the future.

We recommend that the Town acquire this well site now to assure its availability in the future.



632.44

M.W. #1

632.45

632.43

632.42

M.W. #2

TEST WELL
EL. = 663.0

632.41

632.41

CALLAWAY BLVD.

632.40

632.41

632.40

M.W. #3

LAKESHORE DRIVE

309'-8" SALT PILE



PRETEST GROUNDWATER
GRADIENT
TEST WELL NO. 1
CAMPBELL, WISCONSIN

Prj. N. 1331-050

Date: 8-22-2000

Scale: 1" = 20'

Drn. By: DKO/VS

Rev. 7-2-2001

Chkd. By: MFD

6-26-2001



M.W. #1

628.0

630.59

626.0

624.0

M.W. #2

630.38

TEST WELL
EL. = 663.0

622.0

620.0

618.0

CALLAWAY BLVD.

616.34

630.23

M.W. #3

LAKESHORE DRIVE

50' @ 1" = 100'



12 DAY CONE OF
DEPRESSION
TEST WELL NO. 1
CAMPBELL, WISCONSIN

Prj. N. 1331-050

Date: 8-22-2000

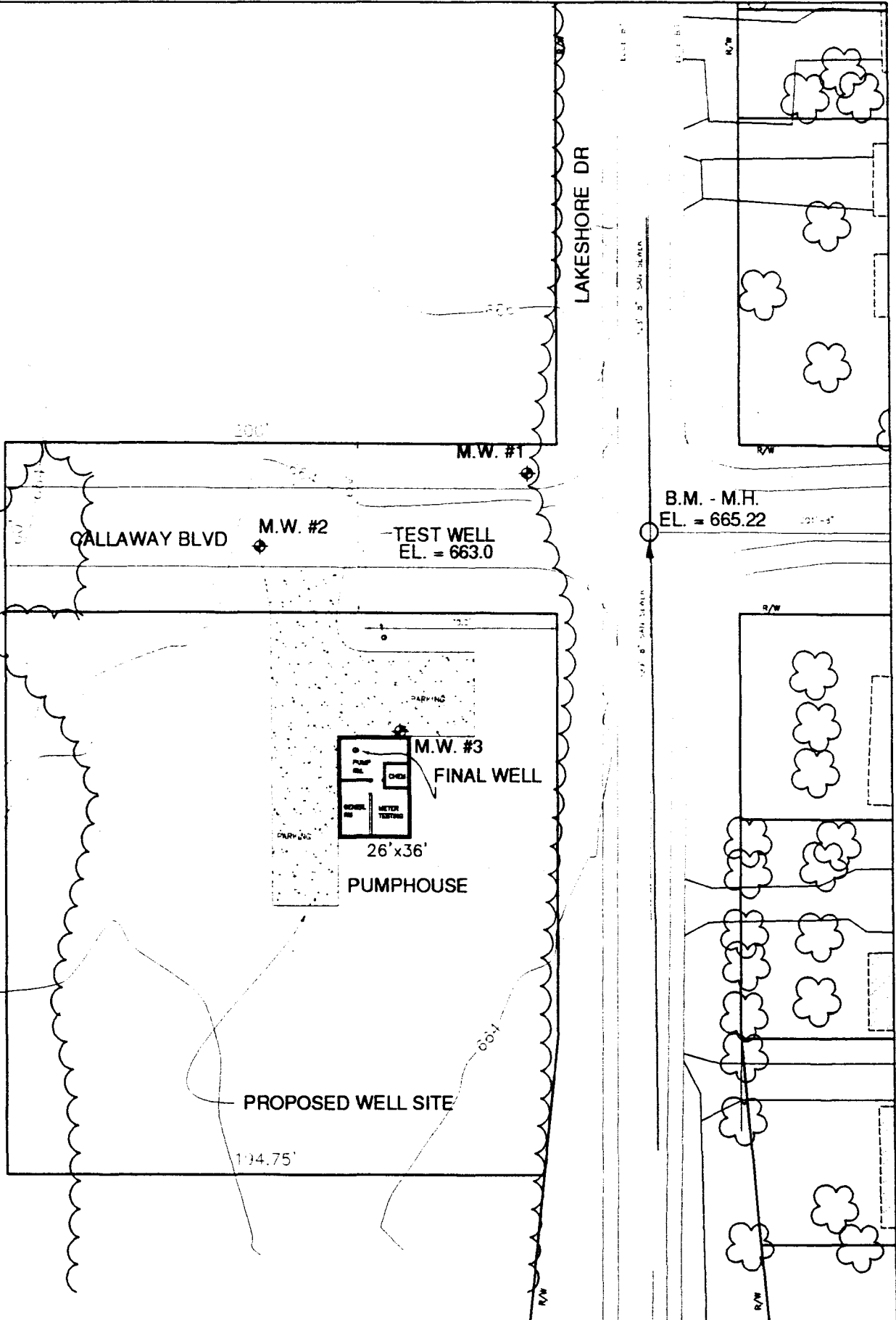
Scale: 1" = 20'

Drn. By: DKO/VS

Rev. 7-2-2001

Chkd. By: MFD

6-26-2001



**SITE LOCATION MAP
TEST WELL NO. 1
CAMPBELL, WISCONSIN**

Prj. N. 1331-050	Date: 8-22-2000	Scale: 1" = 50'
Drn. By: DKO	Rev. 9-8-2000	
Chkd. By: MFD	6-26-2001	

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 1, 2001
Client No: 46400

Sample No: 88594
Sample Site: Test Well (0222)

Date Collected: 02/23/01

Date Received: 02/23/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	1.82	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/28/01	0.219	mg/L	0.05	(A)

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

Paul A. Harris, Director

PAH:ead

cc: Al Scheer-Davy Engineering Co., Inc.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 1, 2001
Client No: 46404

Sample No: 88599
Sample Site: Test Well

Date Collected: 02/23/01 (1604)

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/29/01	1.85	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.237	mg/L	0.05	(A)

Sample No: 88600
Sample Site: Test Well

Date Collected: 02/23/01 (1303)

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	1.88	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.250	mg/L	0.05	(A)

Sample No: 88601
Sample Site: Test Well

Date Collected: 02/23/01 (1400)

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	2.06	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.270	mg/L	0.05	(A)

Sample No: 88602
Sample Site: Test Well

Date Collected: 02/24/01 (0700)

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	2.34	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.301	mg/L	0.05	(A)

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell

Attn: Dan Kapanke

Date: March 1, 2001

Client No: 46404

Sample No: 88603
Sample Site: Test Well

Date Collected: 02/24/01 (190)

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	2.38	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.285	mg/L	0.05	(A)

Sample No: 88604
Sample Site: Test Well

Date Collected: 02/25/01 (170)

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	2.54	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.307	mg/L	0.05	(A)

Sample No: 88605
Sample Site: Test Well

Date Collected: 02/25/01 (190)

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	2.61	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.308	mg/L	0.05	(A)

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

Paul A. Harris, Director

PAH:ead

cc: Karl Green-Davy Engineering Co., Inc.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 1, 2001
Client No: 46405

Sample No: 88606
Sample Site: Test Well

Date Collected: 02/26/01

Date Received: 02/26/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.17	02/28/01	2.73	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.306	mg/L	0.05	(A)

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

Paul A. Harris, Director

PAH:ead

cc: Al Scheer-Davy Engineering Co., Inc.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 1, 2001
Client No: 46408

Sample No: 88609
Sample Site: Test Well

Date Collected: 02/27/01

Date Received: 02/27/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.08	0.25	02/28/01	2.83	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	02/28/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	02/28/01	0.308	mg/L	0.05	(A)

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

Paul A. Harris, Director

PAH:ead

cc: Al Scheer-Davy Engineering Co., Inc.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 2, 2001
Client No: 46433

Sample No: 88663 Date Collected: 02/27/01 Date Received: 03/01/01
Sample Site: Test Well (1905)

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.08	0.20	03/01/01	2.94	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/01/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/01/01	0.337	mg/L	0.05	(A)

Sample No: 88664 Date Collected: 02/28/01 Date Received: 03/01/01
Sample Site: Test Well (0750)

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.08	0.20	03/01/01	3.08	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/01/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/01/01	0.340	mg/L	0.05	(A)

Sample No: 88665 Date Collected: 02/28/01 Date Received: 03/01/01
Sample Site: Test Well (2008)

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.08	0.20	03/01/01	3.00	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/01/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/01/01	0.336	mg/L	0.05	(A)

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell

Attn: Dan Kapanke

Date: March 2, 2001

Client No: 46433

Sample No: 88666

Date Collected: 03/01/01

Date Received: 03/01/01

Sample Site: Test Well (0725)

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.08	0.20	03/01/01	3.13	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/01/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/01/01	0.338	mg/L	0.05	(A)

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Al Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 7, 2001
Client No: 46443

Sample No: 88684
Sample Site: Test Well (1900)

Date Collected: 03/01/01

Date Received: 03/02/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.18	03/02/01	2.98	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/06/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/06/01	0.320	mg/L	0.05	(A)

Sample No: 88685
Sample Site: Test Well (0710)

Date Collected: 03/02/01

Date Received: 03/02/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.05	0.18	03/02/01	3.10	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/06/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/06/01	0.319	mg/L	0.05	(A)

MDL = Minimum Detection Level

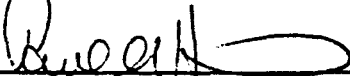
LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL

Submitted by:

DAVY LABORATORIES


Paul A. Harris, Director
PAH:ead

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 832021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

PA School Davy Engineering Center

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 6, 2001
Client No: 46438

Sample No: 88673
Sample Site: Test Well

Date Collected: 03/02/01

Date Received: 03/02/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Manganese, Total	SM 3111 B	0.005	0.020	03/02/01	0.282	mg/L	0.05	(A)
Manganese, Dissolved	SM 3111 B	0.005	0.020	03/02/01	0.266	mg/L	0.05	(A)

MDL = Minimum Detection Level

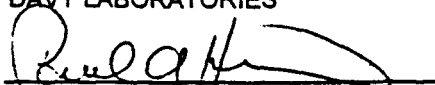
LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES


Paul A. Harris, Director
PAH:ead

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 832021390 and 105 000218, MN Certification No. 055-999-151, IA Certification No. 304

CAMPBELL TEST WELL RECOVERY DATA MW-3

Theis Recovery Results

t min	t' min	Ratio t/t'	s'	Slope	T ft	S gpd/ft
17400.50	0.50	34801.0	1.71	0.38	701158.02	0.0022194
17401.00	1.00	17401.0	1.55	0.37	722265.54	0.0015081
17401.50	1.50	11601.0	1.54	0.38	696770.64	0.0024048
17402.50	2.50	6961.00	1.53	0.40	663049.22	0.0044484
17403.50	3.50	4972.43	1.52	0.41	642035.59	0.0065179
17404.50	4.50	3867.67	1.51	0.42	627209.63	0.0085286
17405.50	5.50	3164.64	1.50	0.43	616056.99	0.0104366
17406.50	6.50	2677.92	1.49	0.43	607341.41	0.0122175
17408.00	8.00	2176.00	1.48	0.44	595366.18	0.0151652
17409.50	9.50	1832.58	1.47	0.45	586019.42	0.0179470
17411.00	11.00	1582.82	1.45	0.45	582517.10	0.0191148
17414.00	14.00	1243.86	1.44	0.47	567374.59	0.0250934
17418.00	18.00	967.67	1.43	0.48	551210.91	0.0335258
17422.00	22.00	791.91	1.42	0.49	538908.65	0.0417725
17424.00	24.00	726.00	1.41	0.49	535664.73	0.0442628
17428.00	28.00	622.43	1.40	0.50	526885.45	0.0517628
17435.00	35.00	498.14	1.38	0.51	516015.53	0.0628084
17440.00	40.00	436.00	1.36	0.52	512370.91	0.0670100
17445.00	45.00	387.67	1.35	0.52	506187.43	0.0747826
17450.00	50.00	349.00	1.33	0.52	504741.29	0.0767252
17455.00	55.00	317.36	1.32	0.53	500311.43	0.0829912
17460.00	60.00	291.00	1.30	0.53	500359.81	0.0829201
17470.00	70.00	249.57	1.28	0.53	494421.44	0.0921108
17500.00	100.00	175.00	1.27	0.57	466269.33	0.1513036

Average ==> 0.47 573354.64 0.0411491

Q = pumping rate = 1000.00 gpm

Observation well distance = r = ft = 33.75

t = time duration of pump test = min = 17400.00 = days = 12.0833

t(o)' = time of zero recovery = min = 0.018 = days = 0.000013

Aquifer thickness = 115.00 ft

Slope = 0.46 ft

(S/S') at origin = 6.73

Transmissivity = T = 573354.64 gpd/ft = 76829.52 sq ft/day = 7109.60 sq m/day

Hydraulic conductivity = K = 4985.69 gpd/sq ft = 668.08 ft/day = 204.41 m/day

S = Storativity = 0.00188896

r(o) = limit of cone of depression at steady-rate = 33170.66 ft

s(o) = zero drawdown criterion = ft = 0.01

r(L) = transient limit of cone of depression = ft = 62399.72

W(u) for s(o) = dimensionless = 0.05003

u for s(o) = dimensionless = 1.98527

s(p) = drawdown in pumping well at 100% efficiency = 4.24 ft

Q/s = specific capacity of pumping well at 100% efficiency = 236.07 gpm/ft

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 22, 2001
Client No: 46590

Sample No: 89013
Sample Site: Test Well

Date Collected: 03/21/01

Date Received: 03/21/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Manganese, Total	SM 3111 B	0.005	0.020	03/21/01	0.072	mg/L	0.05	(A)

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES

Paul A. Harris (CTA)

Paul A. Harris, Director

PAH:ead

cc: Al Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 28, 2001
Client No: 46621

Sample No: 89087 Date Collected: 03/22/01 (0903) Date Received: 03/23/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	6.83	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/23/01	0.314	mg/L	0.3	(A)
Manganese, Total	SM 3111 B	0.005	0.020	03/23/01	0.083	mg/L	0.05	(A)

Sample No: 89088 Date Collected: 03/22/01 (1103) Date Received: 03/23/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	6.58	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/23/01	0.203	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/23/01	0.060	mg/L	0.05	(A)

Sample No: 89089 Date Collected: 03/22/01 (1435) Date Received: 03/23/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	6.09	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/23/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/23/01	<0.005	mg/L	0.05	

Sample No: 89090 Date Collected: 03/22/01 (2000) Date Received: 03/23/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	5.61	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/23/01	0.023	mg/L	0.3	(B)
Manganese, Total	SM 3111 B	0.005	0.020	03/23/01	<0.005	mg/L	0.05	

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell

Attn: Dan Kapanke

Date: March 28, 2001

Client No: 46621

Sample No: 89091

Date Collected: 03/23/01 (0800)

Date Received: 03/23/01

Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	5.53	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/23/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/23/01	<0.005	mg/L	0.05	

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL. (B)=Test result lower than LOQ.

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Al Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: March 28, 2001
Client No: 46625

Sample No: 89096 Date Collected: 03/23/01 (2000) Date Received: 03/26/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	4.81	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/27/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/27/01	0.013	mg/L	0.05	(A)

Sample No: 89097 Date Collected: 03/24/01 (0800) Date Received: 03/26/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	5.09	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/27/01	0.030	mg/L	0.3	(A)
Manganese, Total	SM 3111 B	0.005	0.020	03/27/01	0.018	mg/L	0.05	(A)

Sample No: 89098 Date Collected: 03/24/01 (2000) Date Received: 03/26/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	4.64	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/27/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/27/01	0.016	mg/L	0.05	(A)

Sample No: 89099 Date Collected: 03/25/01 (0810) Date Received: 03/26/01
Sample Site: Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/27/01	5.27	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	03/27/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/27/01	0.019	mg/L	0.05	(A)

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: April 4, 2001
Client No: 46648

Sample No: 89145
Sample Site: Test Well

Date Collected: 03/27/01 (1630)

Date Received: 03/28/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Alkalinity as CaCO ₃ , Total	SM 2320 B	1	3	03/29/01	144	mg/L	—	(A)
Hardness as CaCO ₃ , Total	SM 2340 C	5	25	03/28/01	195	mg/L	—	
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	03/29/01	4.94	mg/L	10	
Total Dissolved Solids	SM 2540 C	—	—	03/29/01	293	mg/L	—	
Iron, Total	SM 3111 B	0.021	0.079	03/29/01	<0.021	mg/L	0.3	
Manganese, Total	SM 3111 B	0.005	0.020	03/29/01	<0.005	mg/L	0.05	

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=At endpoint 4.5.

Submitted by:

DAVY LABORATORIES

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

Paul A. Harris, Director

PAH:ead

cc: AI Scheer-Davy Engineering Co., Inc.

WI Certification Nos. 832021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: April 5, 2001
Client No: 46684

Sample No: 89221 Date Collected: 04/02/01 (10:40) Date Received: 04/02/01
Sample Site: Campbell Test Well

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate + Nitrite Nitrogen as N, Total	SM 4500-NO ₃ H	0.25	0.90	04/03/01	4.49	mg/L	10	
Iron, Total	SM 3111 B	0.021	0.079	04/03/01	0.022	mg/L	0.3	(A)
Manganese, Total	SM 3111 B	0.005	0.020	04/03/01	<0.005	mg/L	0.05	

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Test result lower than LOQ.

Submitted by:

DAVY LABORATORIES

Paul A. Harris (TAD)

Paul A. Harris, Director

PAH:ead

cc: AI Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: February 12, 2001
Client No: 46305

Sample No: 88407
Sample Site: MW-3

Date Collected: 02/07/01

Date Received: 02/08/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.15	0.50	02/08/01	4.41	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/09/01	<0.021	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/09/01	0.058	mg/L	0.05	(A)

COPY

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Karl Green-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES
 115 6th Street S.
 P.O. Box 2076
 La Crosse, Wisconsin 54602-2076
 (608) 782-3130 FAX (608) 784-6611

CHAIN OF CUSTODY REPORT FORM

(Fill out all unshaded areas)



CLIENT (REPORT TO) <i>Town of Campbell</i>	ATTN: <i>Dan Kapantke</i>	ADDRESS <i>2219 Bainbridge</i>	City <i>LaCrosse</i>	State <i>WI</i>	Zip <i>54603</i>	PHONE (include area code) <i>608-783-0050</i>
INVOICE TO: <i>Town of Campbell</i>	ATTN: <i>Dan Kapantke</i>	ADDRESS <i>2219 Bainbridge</i>	City <i>LaCrosse</i>	State <i>WI</i>	Zip <i>54603</i>	PHONE (include area code) <i>608-783-0050</i>
SAMPLE COLLECTOR (Print) <i>Karl Green</i>	P.O. #:	<input type="checkbox"/> FAX REPORTS TO:				FAX # (include area code)

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished by (signature) <i>Karl Green</i>	Date/Time <i>2/7/01 (1330)</i>	Received by (signature)
Relinquished by (signature)	Date/Time	Received for Laboratory by (signature)

Temperature of Temperature Blank* *None*

NOTE: SHADED AREAS FOR LAB USE ONLY!

Field I.D. Number ¹	Date Collected	Time Collected	Sample Type ²	Sample Site ³	Parameters ⁴	No./Type of Containers	Pres. F/L	Preserv. Type ⁵	Fill. F/L	Good Cond.	Lab ID Number	Other Comments?	SAMPLE CONDITION	
													DATE/TIME	
MW-3	<i>2/8/01</i>	<i>12:50</i>	<i>GW</i>	<i>MW-3</i>	<i>Dissolved Fe, Mn Nitrates</i>	<i>1x500ml/pc 1x250ml/pc</i>	<i>L</i>	<i>1</i>	<i>L</i>	<input checked="" type="checkbox"/>	<i>88407</i>	<i>Filtered @ Lab preserved 2/1/01</i>		
	<i>2/8/01</i>													

24 Hr. RUSH

RUSH

*CC: Karl Green
2/9/01
per Karl Green*

¹ Specify your sample number for each sample site.
² Specify: Groundwater (GW), Surface water (SW), Soil (S), Leachate (L), Sludge (SL), Wastewater Effluent (WWE), Wastewater Influent (WWI), Drinking Water (DW), Other (O).
³ Sample Site must clearly identify the sampling location.
⁴ The types of analyses should be specified here.
⁵ Preservation Codes: (1) HNO₃, (2) H₂SO₄, (3) NaOH, (4) Refrigerated at 4°C, (5) Na₂S₂O₃, (6) HCl, (7) None, (8) Other: _____

ORDER NO. <i>10165</i>	IN <i>H-Del</i>
	OUT <i>plu 2/9/01</i>

Disposition of unused portion of sample Laboratory should: Dispose Retain for _____ days Return Other _____

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: February 12, 2001
Client No: 46310

Sample No: 88412
Sample Site: Test Well 70' BGL

Date Collected: 02/09/01

Date Received: 02/09/01

Parameter	Method	MDL	LOQ	Date	Result	Unit	MCL	Qual. ¹
				Analyzed				
Nitrate Nitrogen as N, Total	EPA 300.0	0.15	0.50	02/11/01	3.92	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/09/01	<0.021	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/09/01	0.031	mg/L	0.05	

Sample No: 88413
Sample Site: Test Well 50' BGL

Date Collected: 02/09/01

Date Received: 02/09/01

Parameter	Method	MDL	LOQ	Date	Result	Unit	MCL	Qual. ¹
				Analyzed				
Nitrate Nitrogen as N, Total	EPA 300.0	0.15	0.50	02/11/01	6.53	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/09/01	0.148	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/09/01	0.041	mg/L	0.05	

COPY

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: None

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Karl Green-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES
 115 6th Street S.
 P.O. Box 2076
 La Crosse, Wisconsin 54602-2076
 (608) 782-3130 FAX (608) 784-6611

CHAIN OF CUSTODY REPORT FORM

(Fill out all unshaded areas)



CLIENT (REPORT TO) <i>Town of Campbell</i>	ATTN: <i>Dan Kopate</i>	ADDRESS <i>2219 Bainbridge</i>	City <i>LaCrosse, WI</i>	State <i>WI</i>	Zip <i>54603</i>	PHONE (include area code) <i>608-783-0050</i>
INVOICE TO: <i>"</i>	ATTN: <i>"</i>	ADDRESS <i>"</i>	City <i>"</i>	State <i>"</i>	Zip <i>"</i>	PHONE (include area code) <i>"</i>
SAMPLE COLLECTOR (Print) <i>Karl Green</i>	P.O. #: <i>_____</i>	<input type="checkbox"/> FAX REPORTS TO: <i>_____</i>				FAX # (include area code) <i>_____</i>

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished by (signature) <i>Karl Green</i>	Date/Time <i>2/9/01 10:50</i>	Received by (signature) <i>EE</i>
Relinquished by (signature)	Date/Time	Received for Laboratory by (signature)

Temperature of Temperature Blank* *2.7°C*

NOTE: SHADED AREAS FOR LAB USE ONLY!

Field I.D. Number ¹	Date Collected	Time Collected	Sample Type ²	Sample Site ³	Parameters ⁴	No./Type of Containers	Pres. F/L	Preserv. Type ⁵	Filt. F/L	Good Cond.	Lab ID Number	Other Comments?	SAMPLE CONDITION	
													DATE/TIME	
<i>Test well</i>	<i>2/9/01</i>	<i>10:00</i>	<i>GW</i>	<i>Test well 70' B6L</i>	<i>Nitrates, Diss. Fe, MN</i>	<i>1-250ml pe 1-500ml pe</i>	<i>LF</i>	<i>4.1</i>	<i>L</i>	<input checked="" type="checkbox"/>	<i>88412</i>	<i>preserv. ok etc</i>	<i>2/9/01 (1050)</i>	
<i>"</i>	<i>"</i>	<i>10:15</i>	<i>GW</i>	<i>5d"</i>	<i>"</i>	<i>1-250ml pe 1-500ml pe</i>	<i>LF</i>	<i>4.1</i>	<i>L</i>	<input checked="" type="checkbox"/>	<i>88413</i>	<i>preserv. ok etc</i>		
<i>Brought in one set of bottles empty 2/9/01 EE</i>														
<i>cc: Karl Green per Karl Green</i>														
RUSH														

¹ Specify your sample number for each sample site.
² Specify: Groundwater (GW), Surface water (SW), Soil (S), Leachate (L), Sludge (SL), Wastewater Effluent (WWE), Wastewater Influent (WWI), Drinking Water (DW), Other (O).
³ Sample Site must clearly identify the sampling location.
⁴ The types of analyses should be specified here.
⁵ Preservation Codes: (1) HNO₃, (2) H₂SO₄, (3) NaOH, (4) Refrigerated at 4°C, (5) Na₂S₂O₃, (6) HCl, (7) None, (8) Other:

ORDER NO.
10189

INT. Del
OUT
plu
2/9/01

Disposition of unused portion of sample Laboratory should: Dispose Retain for _____ days Return Other _____

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: February 12, 2001
Client No: 46309

Sample No: 88411
Sample Site: Test Well 90' BGL

Date Collected: 02/09/01

Date Received: 02/09/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual.¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.15	0.50	02/11/01	2.84	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/09/01	<0.021	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/09/01	0.034	mg/L	0.05	

COPY

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: None

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Karl Green-Davy Engineering Co., Inc.
Al Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: February 12, 2001
Client No: 46308

Sample No: 88410
Sample Site: Test Well 110' BGL

Date Collected: 02/09/01

Date Received: 02/09/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.015	0.050	02/10/01	0.528	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/09/01	<0.021	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/09/01	0.048	mg/L	0.05	

COPY

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: None

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Karl Green-Davy Engineering Co., Inc.

AI Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES
 115 6th Street S.
 P.O. Box 2076
 La Crosse, Wisconsin 54602-2076
 (608) 782-3130 FAX (608) 784-6611

CHAIN OF CUSTODY REPORT FORM

(Fill out all unshaded areas)



CLIENT (REPORT TO) <i>Town of Campbell</i>	ATTN: <i>Dan Kapurka</i>	ADDRESS <i>7219 Bainbridge</i>	City <i>LaCrosse</i>	State <i>WI</i>	Zip <i>54603</i>	PHONE (include area code) <i>608-783-0050</i>
INVOICE TO:	ATTN:	ADDRESS	City	State	Zip	PHONE (include area code)
SAMPLE COLLECTOR (Print) <i>Karl Green</i>	P.O. #:	<input type="checkbox"/> FAX REPORTS TO:				FAX # (include area code)

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished by (signature) <i>K. Green</i>	Date/Time <i>2/9/01 8:43</i>	Received by (signature) <i>EF</i>
Relinquished by (signature)	Date/Time	Received for Laboratory by (signature)

Temperature of Temperature Blank* 2.3°C

NOTE: SHADED AREAS FOR LAB USE ONLY!

Field I.D. Number ¹	Date Collected	Time Collected	Sample Type ²	Sample Site ³	Parameters ⁴	No./Type of Containers	Pres. F/L	Preserv. Type ⁵	Fill F/L	Good Cond.	Lab ID Number	Other Comments?	SAMPLE CONDITION	
													DATE/TIME	
<i>Test Well</i>	<i>2/9/01</i>	<i>8:20</i>	<i>GW</i>	<i>Test Well 110' B6L</i>	<i>Nitrates, Dissolved Fe, Mn</i>	<i>1-500ml pe 1-250ml pe</i>	<i>KL</i>	<i>4.1</i>	<i>L</i>	<input checked="" type="checkbox"/>	<i>88410</i>	<i>preserve on 9/1</i>	<i>2/9/01</i>	
<i>24 hr. Rush</i>														
<i>CC: AWS KDB</i>														

COPIES

RUSH

¹ Specify your sample number for each sample site.
² Specify: Groundwater (GW), Surface water (SW), Soil (S), Leachate (L), Sludge (SL), Wastewater Effluent (WWE), Wastewater Influent (WWI), Drinking Water (DW), Other (O).
³ Sample Site must clearly identify the sampling location.
⁴ The types of analyses should be specified here.
⁵ Preservation Codes: (1) HNO₃, (2) H₂SO₄, (3) NaOH, (4) Refrigerated at 4°C, (5) Na₂S₂O₅, (6) HCl, (7) None, (8) Other: _____

ORDER NO. <i>10186</i>	IN <i>H. Del</i>
	OUT <i>PLU</i>
	<i>2/9/01</i>

Disposition of unused portion of sample Laboratory should: Dispose Retain for _____ days Return Other _____

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: February 12, 2001
Client No: 46307

Sample No: 88409
Sample Site: Test Well 130'

Date Collected: 02/09/01

Date Received: 02/09/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.003	0.010	02/10/01	0.012	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/09/01	<0.021	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/09/01	0.769	mg/L	0.05	(A)

OP

MDL = Minimum Detection Level


LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL.

Submitted by:

DAVY LABORATORIES


Paul A. Harris, Director

PAH:ead

cc: Karl Green-Davy Engineering Co., Inc.
Al Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 832021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES
 115 6th Street S.
 P.O. Box 2076
 La Crosse, Wisconsin 54602-2076
 (608) 782-3130 FAX (608) 784-6611

CHAIN OF CUSTODY REPORT FORM

(Fill out all unshaded areas)



CLIENT (REPORT TO) <i>Town of Campbell</i>	ATTN: <i>Dan Koputka</i>	ADDRESS <i>2219 Balnbridge</i>	City <i>La Crosse</i>	State <i>WI</i>	Zip <i>54603</i>	PHONE (include area code) <i>608-783-0050</i>
INVOICE TO:	ATTN:	ADDRESS	City	State	Zip	PHONE (include area code)
SAMPLE COLLECTOR (Print) <i>Karl Green</i>	P.O. #:	<input type="checkbox"/> FAX REPORTS TO:				FAX # (include area code)

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished by (signature) <i>Karl Green</i>	Date/Time <i>2/9/01 7:43</i>	Received by (signature) <i>EF</i>	DATE/TIME <i>2/9/01 (07:43)</i>
Relinquished by (signature)	Date/Time	Received for Laboratory by (signature)	DATE/TIME

Temperature of Temperature Blank* *2.6°C*

NOTE: SHADED AREAS FOR LAB USE ONLY!

Field I.D. Number ¹	Date Collected	Time Collected	Sample Type ²	Sample Site ³	Parameters ⁴	No./Type of Containers	Pres. F/L	Preserv. Type ⁵	Fill. F/L	Good Cond.	Lab ID Number	Other Comments?
<i>Test well</i>	<i>2/9/01</i>	<i>7:15</i>	<i>GW</i>	<i>Test well 130'</i>	<i>Dissolved Fe, Mn, - Nitrate</i>	<i>1-500ml pe 1-200ml pe</i>	<i>FL</i>	<i>4, 1</i>	<i>L</i>	<input checked="" type="checkbox"/>	<i>88409</i>	<i>presence ok EF</i>

24 hr. Rush
RUSH
*CC: AWS
KDG*

¹ Specify your sample number for each sample site.
² Specify: Groundwater (GW), Surface water (SW), Soil (S), Leachate (L), Sludge (SL), Wastewater Effluent (WWE), Wastewater Influent (WWI), Drinking Water (DW), Other (O).
³ Sample Site must clearly identify the sampling location.
⁴ The types of analyses should be specified here.
⁵ Preservation Codes: (1) HNO₃, (2) H₂SO₄, (3) NaOH, (4) Refrigerated at 4°C, (5) Na₂S₂O₃, (6) HCl, (7) None, (8) Other: _____

ORDER NO. *10185*
 INH. Del
 OUT
plu
2/8/01

Disposition of unused portion of sample Laboratory should: Dispose Retain for _____ days Return Other _____

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



LABORATORY ANALYSIS REPORT

Town of Campbell
2219 Bainbridge Street
La Crosse, WI 54603

Attn: Dan Kapanke

Date: February 12, 2001
Client No: 46306

Sample No: 88408
Sample Site: Test Well 150' BGL

Date Collected: 02/08/01

Date Received: 02/08/01

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Nitrate Nitrogen as N, Total	EPA 300.0	0.003	0.010	02/10/01	0.040	mg/L	10	
Iron, Dissolved	SM 3111 B	0.021	0.079	02/09/01	<0.021	mg/L	0.3	
Manganese, Dissolved	SM 3111 B	0.005	0.020	02/09/01	0.192	mg/L	0.05	(A)

COPY

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=Exceeds the MCL

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Karl Green-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-899-151, IA Certification No. 304

DAVY LABORATORIES
 115 6th Street S.
 P.O. Box 2076
 La Crosse, Wisconsin 54602-2076
 (608) 782-3130 FAX (608) 784-6611

CHAIN OF CUSTODY REPORT FORM

(Fill out all unshaded areas)



CLIENT (REPORT TO) <i>Town of Campbell</i>	ATTN: <i>Don Kappeler</i>	ADDRESS <i>2219 Erie bridge</i>	City <i>La Crosse</i>	State <i>WI</i>	Zip <i>54603</i>	PHONE (include area code) <i>608-783-0050</i>
INVOICE TO: <i>"</i>	ATTN: <i>"</i>	ADDRESS <i>"</i>	City <i>"</i>	State <i>"</i>	Zip <i>"</i>	PHONE (include area code) <i>"</i>
SAMPLE COLLECTOR (Print) <i>Karl Green</i>	P.O. #:	<input type="checkbox"/> FAX REPORTS TO:				FAX # (include area code)

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished by (signature) <i>Karl Green</i>	Date/Time <i>2/8/01 (5:55)</i>	Received by (signature)
Relinquished by (signature)	Date/Time	Received for Laboratory by (signature)

Temperature of Temperature Blank* *0.30C*

NOTE: SHADED AREAS FOR LAB USE ONLY!

Field I.D. Number ¹	Date Collected	Time Collected	Sample Type ²	Sample Site ³	Parameter(s)	No./Type of Containers	Pres. F/L	Preserv. Type ⁴	Fill. F/L	Good Cond.	Lab ID Number	Other Comments?	SAMPLE CONDITION	
													DATE/TIME	
11025														
<i>11025</i>	<i>2/8/01</i>	<i>5:55</i>	<i>6W</i>	<i>Test Well</i>	<i>Dissolved Fe, Mn, Nitrate</i>	<i>1-500mlpc 1-250mlpc</i>	<i>L</i>	<i>1</i>	<i>L</i>	<i>✓</i>	<i>88408</i>	<i>Plus Fe, Mn, Nitrate by EF pres EFN.</i>		
				<i>156' Bore</i>	<i>2/9/01 EF</i>									
					<i>Changed per Karl Green 2/9/01 EF</i>									
					<i>24 N. Rush</i>									

RUSH

¹ Specify your sample number for each sample site.
² Specify: Groundwater (GW), Surface water (SW), Soil (S), Leachate (L), Sludge (SL), Wastewater Effluent (WWE), Wastewater Influent (WWI), Drinking Water (DW), Other (O).
³ Sample Site must clearly identify the sampling location.
⁴ The types of analyses should be specified here.
⁵ Preservation Codes: (1) HNO₃, (2) H₂SO₄, (3) NaOH, (4) Refrigerated at 4°C, (5) Na₂S₂O₅, (6) HCl, (7) None, (8) Other:

ORDER NO. *10184*
 IN *4 p.m.*
 OUT *Thu 2/8/01*

Disposition of unused portion of sample Laboratory should: Dispose Retain for _____ days Return Other _____

DAVY LABORATORIES

115 6th Street S.
 P.O. Box 2076
 La Crosse, WI 54602-2076
 (608) 782-3130
 FAX (608) 784-6611



SDWA LABORATORY ANALYSIS REPORT

Town of Campbell
 2219 Bainbridge Street
 La Crosse, WI 54601

Attn: Dan Kapanke

Date: June 4, 2001
 Client No: 46728

Sample No: 89289
 Sample Site: Test Well

Date Collected: 04/04/01

Date Received: 04/04/01

Parameter	Method	MDL	LOQ	Date		Unit	MCL	Qual. ¹
				Analyzed	Result			
Alkalinity as CaCO ₃ , Total	SM 2320 B	1	3	04/10/01	139	mg/L	—	(A)
Chloride as Cl ⁻ , Total	SM 4500-Cl D	0.4	1.7	04/10/01	32.5	mg/L	—	
Cyanide as CN ⁻ , Total	SM 4500-CN C/E	0.007	0.027	04/06/01	<0.007	mg/L	—	
Fluoride as F ⁻ , Total	SM 4500-F C	0.10	0.32	04/09/01	<0.10	mg/L	4	
Hardness as CaCO ₃ , Total	SM 2340 C	5	25	04/11/01	179	mg/L	—	
Nitrate Nitrogen as N, Total	EPA 300.0	0.10	0.25	04/13/01	3.40	mg/L	10	
Nitrate + Nitrite Nitrogen as N, Total	Calculation	—	—	04/13/01	3.40	mg/L	10	
Nitrite Nitrogen as N, Total	SM 4500-NO ₂ B	0.001	0.003	04/05/01	<0.001	mg/L	1	
pH	SM 4500-H B	—	—	04/04/01	7.44	su	—	(B)
Total Solids	SM 2540 B	—	—	04/06/01	253	mg/L	—	
Sulfate as SO ₄ , Total	EPA 375.4	1	3	04/11/01	18	mg/L	—	(C)
Formaldehyde, Total	AOAC 931.08	0.06	0.19	04/10/01	<0.06	mg/L	—	
Aluminum, Total	SM 3113 B	0.00252	0.00938	04/05/01	0.0244	mg/L	—	
Antimony, Total	SM 3113 B	0.00073	0.00272	04/25/01	<0.00073	mg/L	0.006	
Arsenic, Total	SM 3113 B	0.00098	0.00366	04/10/01	0.00209	mg/L	0.010	(D)
Barium, Total	SM 3113 B	0.00134	0.00426	04/06/01	0.0899	mg/L	2	
Beryllium, Total	SM 3113 B	0.000016	0.000050	04/05/01	0.000018	mg/L	0.004	(D)
Cadmium, Total	SM 3113 B	0.000043	0.000159	04/26/01	<0.000043	mg/L	0.005	
Calcium, Total	SM 3111 B	0.30	1.10	04/11/01	54.3	mg/L	—	
Chromium, Total	SM 3113 B	0.00027	0.00101	04/20/01	0.00148	mg/L	0.1	
Copper, Total	SM 3113 B	0.00035	0.00130	04/11/01	0.00097	mg/L	0.2	(D)
Iron, Total	SM 3111 B	0.021	0.079	04/10/01	<0.021	mg/L	—	
Lead Total	SM 3113 B	0.00026	0.00095	04/11/01	<0.00026	mg/L	—	
Magnesium, Total	SM 3111 B	0.1	0.4	04/11/01	15.0	mg/L	—	
Manganese, Total	SM 3111 B	0.005	0.020	04/25/01	0.008	mg/L	—	(D)
Mercury, Total	EPA 245.1	0.000094	0.000351	04/05/01	0.000291	mg/L	0.002	(D)
Nickel, Total	SM 3113 B	0.00063	0.00236	04/20/01	<0.00063	mg/L	0.1	
Selenium, Total	SM 3113 B	0.00089	0.00333	04/09/01	<0.00089	mg/L	0.05	
Silver, Total	SM 3113 B	0.000026	0.000098	04/25/01	<0.000026	mg/L	—	
Sodium, Total	SM 3111 B	0.16	0.58	04/26/01	12.1	mg/L	—	
Thallium, Total	EPA 200.9	0.00032	0.00120	04/23/01	<0.00032	mg/L	0.002	

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



SDWA LABORATORY ANALYSIS REPORT

Town of Campbell

Attn: Dan Kapanke

Date: June 4, 2001

Client No 46728

Sample No: 89289 Date Collected: 04/04/01 Date Received: 04/04/01
Sample Site: Test Well

Volatile Organic Compounds (VOC)

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual. ¹
Benzene	EPA 502.2	0.028	0.104	04/16/01	<0.028	µg/L	5	
Bromobenzene	EPA 502.2	0.014	0.052	04/16/01	<0.014	µg/L		
Bromochloromethane	EPA 502.2	0.036	0.132	04/16/01	<0.036	µg/L		
Bromodichloromethane	EPA 502.2	0.011	0.040	04/16/01	<0.011	µg/L	0.6	
Bromoform	EPA 502.2	0.018	0.068	04/16/01	<0.018	µg/L	4.4	
Bromomethane	EPA 502.2	0.037	0.140	04/16/01	<0.037	µg/L	10	
Carbon tetrachloride	EPA 502.2	0.033	0.126	04/16/01	<0.033	µg/L	5	
Chlorobenzene	EPA 502.2	0.017	0.062	04/16/01	<0.017	µg/L	100	
Chloroethane	EPA 502.2	0.012	0.045	04/16/01	<0.012	µg/L	400	
Chloroform	EPA 502.2	0.019	0.071	04/16/01	<0.019	µg/L	6	
Chloromethane	EPA 502.2	0.040	0.147	04/16/01	<0.040	µg/L	3	
2-Chlorotoluene	EPA 502.2	0.017	0.062	04/16/01	<0.017	µg/L		
4-Chlorotoluene	EPA 502.2	0.014	0.052	04/16/01	<0.014	µg/L		
Dibromochloromethane	EPA 502.2	0.018	0.069	04/16/01	<0.018	µg/L	60	
Dibromomethane	EPA 502.2	0.010	0.038	04/16/01	<0.010	µg/L		
1,2-Dichlorobenzene	EPA 502.2	0.015	0.057	04/16/01	<0.015	µg/L	600	
1,3-Dichlorobenzene	EPA 502.2	0.012	0.046	04/16/01	<0.012	µg/L	1250	
1,4-Dichlorobenzene	EPA 502.2	0.017	0.065	04/16/01	<0.017	µg/L	75	
Dichlorodifluoromethane	EPA 502.2	0.040	0.147	04/16/01	<0.040	µg/L	1000	
1,1-Dichloroethane	EPA 502.2	0.025	0.092	04/16/01	<0.025	µg/L	850	
1,2-Dichloroethane	EPA 502.2	0.014	0.051	04/16/01	<0.014	µg/L	5	
1,1-Dichloroethene	EPA 502.2	0.063	0.233	04/16/01	<0.063	µg/L	7	
cis-1,2-Dichloroethene	EPA 502.2	0.014	0.051	04/16/01	<0.014	µg/L	70	
trans-1,2-Dichloroethene	EPA 502.2	0.027	0.100	04/16/01	<0.027	µg/L	100	
1,2-Dichloropropane	EPA 502.2	0.012	0.043	04/16/01	<0.012	µg/L	5	
1,3-Dichloropropane	EPA 502.2	0.014	0.051	04/16/01	<0.014	µg/L		
2,2-Dichloropropane	EPA 502.2	0.013	0.049	04/16/01	<0.013	µg/L		
1,1-Dichloropropene	EPA 502.2	0.028	0.106	04/16/01	<0.028	µg/L		
cis-1,3-Dichloropropene	EPA 502.2	0.032	0.120	04/16/01	<0.032	µg/L	} 0.2 Comb.	
trans-1,3-Dichloropropene	EPA 502.2	0.024	0.090	04/16/01	<0.024	µg/L		
Ethylbenzene	EPA 502.2	0.018	0.068	04/16/01	<0.018	µg/L	700	

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
 P.O. Box 2076
 La Crosse, WI 54602-2076
 (608) 782-3130
 FAX (608) 784-6611



SDWA LABORATORY ANALYSIS REPORT

Town of Campbell

Attn: Dan Kapanke

Date: June 4, 2001

Client No 46728

Sample No: 89289
 Sample Site: Test Well

Date Collected: 04/04/01

Date Received: 04/04/01

Volatile Organic Compounds (VOC) Continued

Parameter	Method	MDL	LOQ	Date Analyzed	Result	Unit	MCL	Qual.
Hexachlorobutadiene	EPA 502.2	0.022	0.083	04/16/01	<0.022	µg/L		
Isopropylbenzene	EPA 502.2	0.016	0.060	04/16/01	<0.016	µg/L		
4-Isopropyltoluene	EPA 502.2	0.017	0.062	04/16/01	<0.017	µg/L		
Methanol	EPA 502.2 (M)	0.020	0.064	04/16/01	<0.020	µg/L	5000	
Methylene chloride	EPA 502.2	0.012	0.046	04/16/01	<0.012	µg/L	5	
Methyl tert butyl ether	EPA 502.2 (M)	0.020	0.074	04/16/01	<0.020	µg/L	60	
Naphthalene	EPA 502.2	0.016	0.060	04/16/01	<0.016	µg/L	40	
Styrene	EPA 502.2	0.016	0.058	04/16/01	<0.016	µg/L	100	
1,1,1,2-Tetrachloroethane	EPA 502.2	0.013	0.047	04/16/01	<0.013	µg/L	70	
1,1,2,2-Tetrachloroethane	EPA 502.2	0.023	0.085	04/16/01	<0.023	µg/L	0.2	
Tetrachloroethene	EPA 502.2	0.014	0.051	04/16/01	<0.014	µg/L	5	
Toluene	EPA 502.2	0.021	0.078	04/16/01	<0.021	µg/L	1000	
1,2,4-Trichlorobenzene	EPA 502.2	0.021	0.080	04/16/01	<0.021	µg/L	70	
1,1,1-Trichloroethane	EPA 502.2	0.034	0.129	04/16/01	<0.034	µg/L	200	
1,1,2-Trichloroethane	EPA 502.2	0.011	0.041	04/16/01	<0.011	µg/L	5	
Trichloroethene	EPA 502.2	0.010	0.036	04/16/01	<0.010	µg/L	5	
Trichlorofluoromethane	EPA 502.2	0.046	0.172	04/16/01	<0.046	µg/L	3490	
1,2,3-Trichloropropane	EPA 502.2	0.021	0.077	04/16/01	<0.021	µg/L	60	
Trichlorotrifluoromethane	EPA 502.2 (M)	0.020	0.064	04/16/01	<0.020	µg/L		
1,2,4-Trimethylbenzene	EPA 502.2	0.015	0.057	04/16/01	<0.015	µg/L	} 480 Comb.	
1,3,5-Trimethylbenzene	EPA 502.2	0.017	0.062	04/16/01	<0.017	µg/L		
Vinyl chloride	EPA 502.2	0.012	0.044	04/16/01	<0.012	µg/L	0.2	
m,p-Xylene	EPA 502.2	0.019	0.070	04/16/01	<0.019	µg/L	} 10000 Comb.	
o-Xylene	EPA 502.2	0.016	0.058	04/16/01	<0.016	µg/L		

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



SDWA LABORATORY ANALYSIS REPORT

Town of Campbell

Attn: Dan Kapanke

Date: June 4, 2001

Client No: 46728

Sample No: 89289

Date Collected: 04/04/01

Date Received: 04/04/01

Sample Site: Test Well

Synthetic Organic Compounds (SOC)₍₀₁₎

Parameter	Method	MDL	Date Analyzed	Result	Unit	MCL	Qual. ¹
Alachlor (Lasso)	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	2	
Aldicarb	EPA 531.1	0.5	04/09/01-05/09/01	<0.5	µg/L	3	
Aldicarb Sulfone	EPA 531.1	0.4	04/09/01-05/09/01	<0.4	µg/L	2	
Aldicarb Sulfoxide	EPA 531.1	0.5	04/09/01-05/09/01	<0.5	µg/L	4	
Aldrin	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Atrazine	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	3	
Benz(a)pyrene	EPA 525.2	0.02	04/09/01-05/09/01	<0.02	µg/L	0.2	
Butachlor	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Carbaryl	EPA 531.1	0.5	04/09/01-05/09/01	<0.5	µg/L	—	
Carbofuran	EPA 531.1	0.9	04/09/01-05/09/01	<0.9	µg/L	40	
Chlordane alpha	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Chlordane gamma	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Chlordane	EPA 505	0.1	04/09/01-05/09/01	<0.1	µg/L	2	
2,4-D	EPA 515.1	0.1	04/09/01-05/09/01	<0.1	µg/L	70	
Dalapon	EPA 515.1	1.0	04/09/01-05/09/01	<1.0	µg/L	200	
1,2-Dibromo-3-chloropropane	EPA 504.1	0.01	04/09/01-05/09/01	<0.01	µg/L	0.2	
Dicamba	EPA 515.1	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Dieldrin	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Di(2-ethylhexyl)adipate	EPA 525.2	0.6	04/09/01-05/09/01	<0.6	µg/L	400	
Di(2-ethylhexyl)phthalate	EPA 525.2	0.6	04/09/01-05/09/01	<0.6	µg/L	6	
Dinoseb	EPA 515.1	0.1	04/09/01-05/09/01	<0.1	µg/L	7	
Diquat	EPA 549.1	0.4	04/09/01-05/09/01	<0.4	µg/L	20	
Endothall	EPA 548.1	9.0	04/09/01-05/09/01	<9.0	µg/L	100	
Endrin	EPA 525.2	0.01	04/09/01-05/09/01	<0.01	µg/L	2.0	
Ethylene dibromide	EPA 504.1	0.01	04/09/01-05/09/01	<0.01	µg/L	0.05	
Glyphosate (Round-up)	EPA 547	6.0	04/09/01-05/09/01	<6.0	µg/L	700	

**Aroclor 1016 - 0.08, Aroclor 1221 - 2.0, Aroclor 1232 - 0.5, Aroclor 1242 - 0.3, Aroclor 1248 - 0.1, Aroclor 1254 - 0.1, Aroclor 1260 - 0.2

Results continued on next page.

DAVY LABORATORIES

115 6th Street S.
P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130
FAX (608) 784-6611



SDWA LABORATORY ANALYSIS REPORT

Town of Campbell

Attn: Dan Kapanke

Date: June 4, 2001

Client No: 46728

Sample No: 89289

Date Collected: 04/04/01

Date Received: 04/04/01

Sample Site: Test Well

Synthetic Organic Compounds (SOC) Continued_(D)

Parameter	Method	MDL	Date Analyzed	Result	Unit	MCL	Qual. ¹
Heptachlor	EPA 525.2	0.04	04/09/01-05/09/01	<0.04	µg/L	0.4	
Heptachlor epoxide	EPA 525.2	0.02	04/09/01-05/09/01	<0.02	µg/L	0.2	
Hexachlorobenzene	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	1	
Hexachlorocyclopentadiene	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	50	
3-Hydroxycarbofuran	EPA 531.1	0.5	04/09/01-05/09/01	<0.5	µg/L	—	
BHC gamma (Lindane)	EPA 525.2	0.02	04/09/01-05/09/01	<0.02	µg/L	0.2	
Methoxychlor	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	40	
Methomyl	EPA 531.1	0.5	04/09/01-05/09/01	<0.5	µg/L	—	
Dual (Metolachlor)	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Metribuzin (Sencor)	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
Oxamyl (Vydate)	EPA 531.1	1.0	04/09/01-05/09/01	<1.0	µg/L	200	
PCB Total	EPA 505	**	04/09/01-05/09/01	<**	µg/L	0.5	
Pentachlorophenol	EPA 515.1	0.04	04/09/01-05/09/01	<0.04	µg/L	1	
Picloram (Tordon)	EPA 515.1	0.1	04/09/01-05/09/01	<0.1	µg/L	500	
Propachlor	EPA 525.2	0.1	04/09/01-05/09/01	<0.1	µg/L	—	
2,4,5-TP (Silvex)	EPA 515.1	0.1	04/09/01-05/09/01	<0.1	µg/L	50	
Simazine	EPA 525.2	0.07	04/09/01-05/09/01	<0.07	µg/L	4	
Toxaphene	EPA 505	1.0	04/09/01-05/09/01	<1.0	µg/L	3	

**Aroclor 1016 - 0.08, Aroclor 1221 - 2.0, Aroclor 1232 - 0.5, Aroclor 1242 - 0.3, Aroclor 1248 - 0.1, Aroclor 1254 - 0.1, Aroclor 1260 - 0.2

MDL = Minimum Detection Level

LOQ = Limit of Quantitation

MCL = Maximum Contaminant Level

¹Qualifiers: (A)=At endpoint 4.5. (B)=Holding time exceeded by the client. (C)=Method not approved for drinking water. (D)=Test result lower than LOQ
(E)=Wisconsin Laboratory Certification No. 999766900.

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

PAH:ead

cc: Al Scheer-Davy Engineering Co., Inc.

The laboratory analyses reported above were determined in accordance with methods from approved authoritative sources. Approved authoritative sources are defined and listed within the respective state certification codes. The results are representative of the sample only; conditions can be expected to vary at different times and under different sampling conditions.

WI Certification Nos. 632021390 and 105 000216, MN Certification No. 055-999-151, IA Certification No. 304

DAVY LABORATORIES
 115 6th Street S.
 P.O. Box 2076
 La Crosse, Wisconsin 54602-2076
 (608) 782-3130 FAX (608) 784-6611

CHAIN OF CUSTODY REPORT FORM

(Fill out all unshaded areas)



CLIENT (REPORT TO) <i>Town of Campbell</i>	ATTN: <i>Dan Kapanke</i>	ADDRESS <i>2219 Bainbridge</i>	City <i>LaCrosse</i>	State <i>WI</i>	Zip <i>54601</i>	PHONE (include area code) <i>608-783-0050</i>
INVOICE TO: <i>same</i>	ATTN:	ADDRESS	City	State	Zip	PHONE (include area code)
SAMPLE COLLECTOR (Print) <i>Allan W. Scheer</i>	P.O. #:	<input type="checkbox"/> FAX REPORTS TO.				FAX # (include area code)

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished by (signature) <i>Allan W. Scheer</i>	Date/Time <i>4/4/01 1300</i>	Received by (signature) <i>LF</i>
Relinquished by (signature)	Date/Time	Received for Laboratory by (signature)

Temperature of Temperature Blank: *4.0°C*

NOTE: SHADED AREAS FOR LAB USE ONLY!

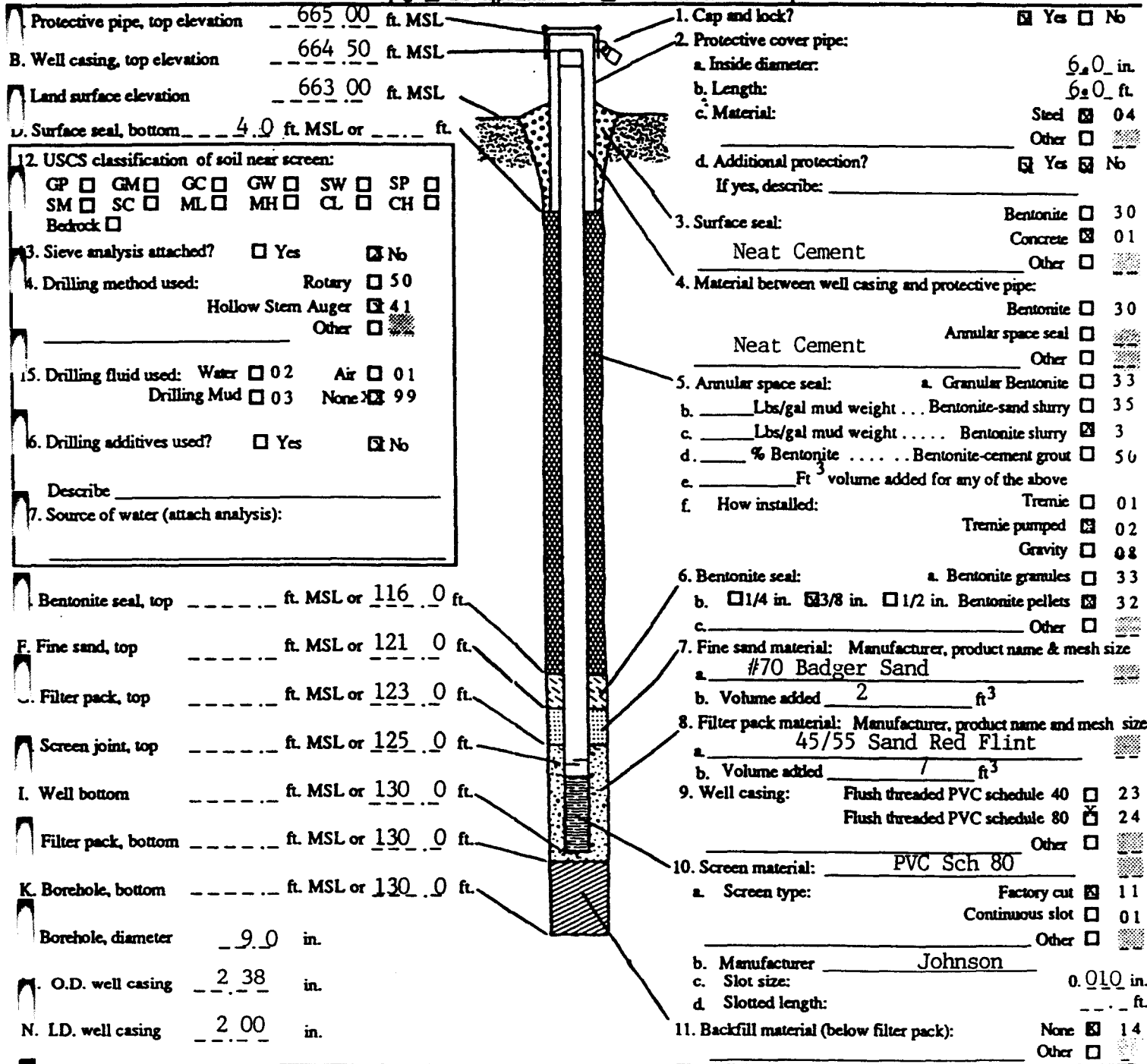
Field I.D. Number ¹	Date Collected	Time Collected	Sample Type ²	Sample Site ³	Parameters ⁴	No./Type of Containers	Pres. F/L	Preserv. Type ⁵	Filt. F/L	Good Cond.	Lab ID Number	Other Comments?
	<i>4/4/01</i>	<i>1200</i>	<i>DW</i>	<i>Test Well</i>	<i>DOC</i>	<i>4 1-liter PC 4-600m (PE)</i>					<i>X9189</i>	
	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>"</i>	<i>DOC</i>	<i>100mL PC 10 4-600m (PE) 1.5ozm (PE)</i>						<i>100mL PC</i>
	<i>↓</i>	<i>↓</i>	<i>↓</i>	<i>"</i>	<i>SDWA/VOL</i>	<i>3-410mL glass vials</i>		<i>1-16</i>				<i>All Scheer</i>
											<i>89-29D</i>	

¹ Specify your sample number for each sample site.
² Specify: Groundwater (GW), Surface water (SW), Soil (S), Leachate (L), Sludge (SL), Wastewater Effluent (WWE), Wastewater Influent (WWI), Drinking Water (DW), Other (O).
³ Sample Site must clearly identify the sampling location.
⁴ The types of analyses should be specified here.
⁵ Preservation Codes; (1) HNO₃, (2) H₂SO₄, (3) NaOH, (4) Refrigerated at 4°C, (5) Na₂S₂O₃, (6) HCl, (7) None, (8) Other: *mcu*

ORDER NO. *106213* IN *01-001* DATE *9/24/01*

Disposition of unused portion of sample Laboratory should: Dispose Retain for _____ days Return Other _____

Facility/Project Name <u>Town of Campbell</u>	Local Grid Location of Well ft. <u>8</u> N. ft. <u>8</u> E. W.	Well Name <u>MW #1</u>
Facility License, Permit or Monitoring Number	Grid Origin Location Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Undergr. Well Number #DNR Well Number
Type of Well Water Table Observation Well <input checked="" type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	Section Location of Waste/Source <u>SE 1/4 of NE 1/4 of Sec. 13, T. 16 N., R. 8 E. W.</u>	Date Well Installed <u>02 / 07 / 01</u> m m / d d / y y
Distance Well Is From Waste/Source Boundary <u>N/A</u> ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input checked="" type="checkbox"/> Not Known	Well Installed By: (Person's Name and Firm) <u>Don Schleppebach</u>
Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<u>Mark J. Traut Wells, Inc.</u>



I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [Signature] Firm: Mark J. Traut Wells, Inc. Lic# 5911

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$3000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including...

Facility/Project Name <u>Town Of Campbell</u>	Local Grid Location of Well _____ ft. <input type="checkbox"/> N _____ ft. <input type="checkbox"/> E _____ ft. <input type="checkbox"/> S _____ ft. <input type="checkbox"/> W	Well Name <u>MW#2</u>
Facility License, Permit or Monitoring Number <u>5911</u>	Grid Origin Location Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Unique Well Number _____ DNR Well Number _____
Type of Well Water Table Observation Well <input checked="" type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	Section Location of Waste/Source <u>SE 1/4 of NE 1/4 of Sec. 13 T. 16 N. R. 8 E. W.</u>	Date Well Installed <u>02 / 01 / 01</u> m m d d y y
Distance Well Is From Waste/Source Boundary <u>N/A</u> ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input checked="" type="checkbox"/> Not Known	Well Installed By: (Person's Name and Firm) <u>Daryl Karasch</u>
Is Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<u>Mike A & Dean</u>

A. Protective pipe, top elevation <u>665.0</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>664.5</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>6.0</u> in.
C. Land surface elevation <u>663.0</u> ft. MSL	b. Length: <u>6.0</u> ft.
D. Surface seal, bottom _____ ft. MSL or <u>4.0</u> ft.	c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>	d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input type="checkbox"/> 41 <u>Sonic</u> Other <input checked="" type="checkbox"/>	4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 30 Annular space seal <input type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	5. Annular space seal: a. Granular Bentonite <input type="checkbox"/> 33 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight Bentonite slurry <input checked="" type="checkbox"/> 31 d. _____ % Bentonite Bentonite-cement grout <input type="checkbox"/> 50 e. _____ Ft ³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input checked="" type="checkbox"/> 02 Gravity <input type="checkbox"/> 08
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input checked="" type="checkbox"/> 32 c. _____ Other <input type="checkbox"/>
17. Source of water (attach analysis): _____	7. Fine sand material: Manufacturer, product name & mesh size a. <u>Badger State</u> <u>7.0</u> b. Volume added _____ ft ³
E. Bentonite seal, top _____ ft. MSL or <u>121.0</u> ft.	8. Filter pack material: Manufacturer, product name and mesh size a. <u>Red Flint 45/55</u> <u>3.0</u> b. Volume added <u>7</u> ft ³
F. Fine sand, top _____ ft. MSL or <u>121.0</u> ft.	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 23 Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> 24 Other <input type="checkbox"/>
G. Filter pack, top _____ ft. MSL or <u>123.0</u> ft.	10. Screen material: <u>Sch80 PVC</u> a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
H. Screen joint, top _____ ft. MSL or <u>125.0</u> ft.	b. Manufacturer <u>Johnson</u> c. Slot size: <u>0.010</u> in. d. Slotted length: <u>5.0</u> ft.
I. Well bottom _____ ft. MSL or <u>130.0</u> ft.	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/>
J. Filter pack, bottom _____ ft. MSL or <u>130.0</u> ft.	
K. Borehole, bottom _____ ft. MSL or <u>130.0</u> ft.	
L. Borehole, diameter <u>7.0</u> in.	
M. O.D. well casing <u>2.38</u> in.	
N. I.D. well casing <u>2.06</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.
Signature Mark J. Traut Firm Mark J. Traut Wells, Inc. Lic # 5911

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

Facility/Project Name Town of Campbell	Local Grid Location of Well ft. <u>8</u> N <u>8</u> E ft. <u>8</u> S <u>8</u> W	Well Name MW #3
Facility License, Permit or Monitoring Number	Grid Origin Location Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Unique Well Number DNR Well Number
Type of Well Water Table Observation Well <input checked="" type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	Section Location of Waste/Source SE 1/4 of NE 1/4 of Sec. 13, T. 16 N, R. 8 E. W.	Date Well Installed <u>02</u> / <u>07</u> / <u>01</u> m m d d y y
Distance Well Is From Waste/Source Boundary N/A ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input checked="" type="checkbox"/> Not Known	Well Installed By: (Person's Name and Firm) Donald Schleppenbach
Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Mark J. Traut Wells, Inc.

a. Protective pipe, top elevation <u>665.00</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
b. Well casing, top elevation <u>664.50</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>6.0</u> in. b. Length: <u>6.0</u> ft. c. Material: <u>Steel</u> <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
c. Land surface elevation <u>663.00</u> ft. MSL	d. Additional protection? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
d. Surface seal, bottom <u>4.0</u> ft. MSL or _____ ft.	3. Surface seal: <u>Neat Cement</u> <input type="checkbox"/> 30 Bentonite <input type="checkbox"/> 01 Concrete <input checked="" type="checkbox"/>

12. USCS classification of soil near screen:
 GP GM GC GW SW SP
 SM SC ML MH CL CH
 Bedrock

13. Sieve analysis attached? Yes No

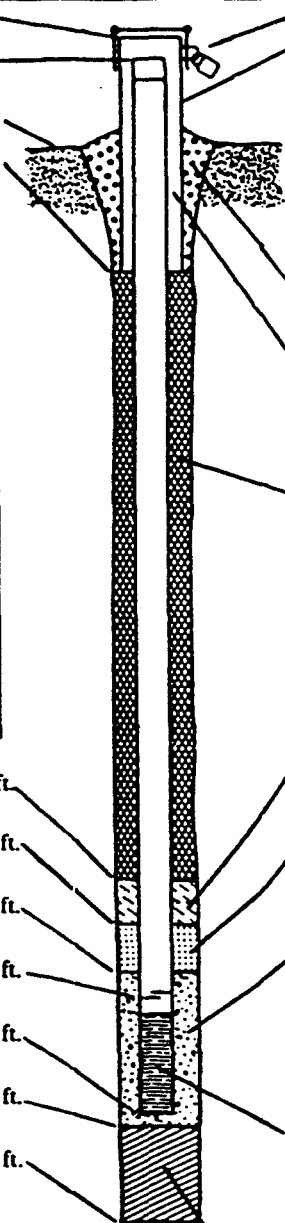
Drilling method used: Rotary 50
 Hollow Stem Auger 41
 Other

Drilling fluid used: Water 02 Air 01
 Drilling Mud 03 None 99

Drilling additives used? Yes No

Describe _____

Source of water (attach analysis): _____



Bentonite seal, top _____ ft. MSL or <u>116.0</u> ft.	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input checked="" type="checkbox"/> 32 c. Other <input type="checkbox"/>
F. Fine sand, top _____ ft. MSL or <u>121.0</u> ft.	7. Fine sand material: Manufacturer, product name & mesh size a. <u>#70 Badger Sand</u>
G. Filter pack, top _____ ft. MSL or <u>123.0</u> ft.	b. Volume added <u>2</u> ft ³
H. Screen joint, top _____ ft. MSL or <u>125.0</u> ft.	8. Filter pack material: Manufacturer, product name and mesh size a. <u>45/55 Sand Red Flint</u>
I. Well bottom _____ ft. MSL or <u>130.0</u> ft.	b. Volume added <u>7</u> ft ³
J. Filter pack, bottom _____ ft. MSL or <u>130.0</u> ft.	9. Well casing: Flush threaded PVC schedule 40 <input type="checkbox"/> 23 Flush threaded PVC schedule 80 <input checked="" type="checkbox"/> 24 Other <input type="checkbox"/>
K. Borehole, bottom _____ ft. MSL or <u>130.0</u> ft.	10. Screen material: <u>PVC Sch 80</u>
Borehole, diameter <u>9.0</u> in.	a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
M. O.D. well casing <u>2.38</u> in.	b. Manufacturer <u>Johnson</u>
N. I.D. well casing <u>2.00</u> in.	c. Slot size: <u>0.010</u> in. d. Slotted length: _____ ft.
	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/>

I hereby certify that the information on this form is true and correct to the best of my knowledge.
 Signature: Mark J. Traut Firm: **Mark J. Traut Wells, Inc. Lic# 5911**

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$1000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.



Well Construction Reports



WELL # 23

WI Unique Well No:	BG158	High Capacity Well No:	80917
DNR Region:	West Central	County:	La Crosse
Muni Type:	C	Municipality:	LACROSSE
Completion Date:	06/01/1976 mm/dd/yyyy	Constructor:	LAYNE CHRISTENSEN COMPANY
Constructor Address:	W229 N5005 DUPLAINVI	Constructor City:	PEWAUKEE
Constructor State:	WI	Constructor Zip:	53072
Well Address:	FRENCH IS #23H	Township:	16 N
Range:	7 W	Section:	8
Quarter Section:	SW	Quarter-Quarter:	NW
Status:	New Well	Original Year:	
Construction Type:	1	Category:	Municipal/Community
Well Depth:	99.1 ft	Screen Diameter:	26 inches
Screen Description:	SS SCREEN	Screen From:	63.1 feet 36 FEET
Screen To:	98.1 feet	Static Water level:	15.7 feet
Pumping level:	33.9 feet	Pumping at:	3024
Pumping units:	Minutes	For:	7 Hour(s)
Well Starting Depth:	0 inches	Geologic Log Number:	LC0119
Common Well Number:	023	Calculated Specific Capacity:	1660
DNR Facility ID:	632030960	Well Name:	FRENCH ISLAND #22H

Distances in Feet to Nearest Objects

No Records returned

Drillhole Dimensions

Diameter (in)	From Depth (ft.)	To Depth (ft.)
78	0	10
72	10	31

66	31	52
46	52	99.1

Casing & Liner

Diameter (inches)	Description	From Depth (ft.)	To Depth (ft.)
36	API 5L 0375 WALL WELDED	0	52.5
26	API 5L 0375 WALL WELDED	.7	63.1

Grout or Other Sealant Materials

Kind of Sealing Material	From Depth (ft.)	To Depth (ft.)	Amount	Units
GROUT W PEA GRAVEL	0	.7	46.5	
NEAT CEMENT @ SAND TO 52.5	46.5	52.1		

Geology

Geology	Geology Description	Driller's Description	USGS Code	From Depth (feet)	To Depth (feet)
S	Sand;	SAND		0	10
G	Gravel/Cobbles/Boulders/Stones;	GRAVEL		10	30
S	Sand;	SAND		30	35
G	Gravel/Cobbles/Boulders/Stones;	GRAVEL		35	40
S	Sand;	SAND		40	70
G	Gravel/Cobbles/Boulders/Stones;	GRAVEL		70	85
S	Sand;	SAND		85	95
G	Gravel/Cobbles/Boulders/Stones;	GRAVEL		95	99.1

Samples

No Records returned



- [Abandonment \(0 Rows\)](#)
- [Variances \(0 Rows\)](#)
- [Rehabilitation/Redevelopment \(0 Rows\)](#)

• [Return Links](#)



Well Construction Reports



WELL # 24

WI Unique Well No: BG159	High Capacity Well No: 80918
DNR Region: West Central	County: La Crosse
Muni Type: C	Municipality: LACROSSE
Completion Date: 03/27/1980 mm/dd/yyyy	Constructor: MILLER WELL AND PUMP
Well Address: FISHERMANS RD #24H	Township: 16 N
Range: 2 W	Section: 8
Quarter Section: SW	Quarter-Quarter: NW
Status: New Well	Original Year:
Construction Type: 1	Category: Municipal/Community
Well Depth: 108 ft	Screen Diameter: 26 inches
Screen Description: SS SCREEN 0060	Screen From: 71 feet
Screen To: 107.25 feet	Static Water level: 24.5 feet <i>36.25 FEET</i>
Pumping level: 49.8 feet	Pumping at: 3500
Pumping units: Minutes	For: 24 Hour(s)
Well Starting Depth: 0 inches	Geologic Log Number: LC0148
Common Well Number: 024	Calculated Specific Capacity: 1380
DNR Facility ID: 632030960	Well Name: FISHERMANS RD #24H

Distances in Feet to Nearest Objects

No Records returned

Drillhole Dimensions

Diameter (in)	From Depth (ft.)	To Depth (ft.)
48	0	108

Casing & Liner

Diameter (inches)	Description	From Depth (ft.)	To Depth (ft.)

36	NEW STEEL 0375 WALL ASTM A53 GR B WELDED	0	61.5
26	NEW STEEL 0375 WALL ASTM A53 GR B WELDED	.25	71

Grout or Other Sealant Materials

Kind of Sealing Material	From Depth (ft.)	To Depth (ft.)	Amount	Units
CONCRETE GROUT	0	61.5		

Geology

Geology	Geology Description	Driller's Description	USGS Code	From Depth (feet)	To Depth (feet)
SG	Sand; w/Gravel/Cobbles/Boulders/Stones;	SAND W GRAVEL		0	108

Samples

No Records returned



- [Abandonment \(0 Rows\)](#)
- [Variances \(0 Rows\)](#)
- [Rehabilitation/Redevelopment \(0 Rows\)](#)
- **Return Links**
 - [DNR Drinking Water System](#)
- **Other DNR information on this Well**
 - [Public Water Supply System](#)



[Top of page](#) || [Help](#)

[Home](#) || [Search](#) || [Feedback](#) || [What is New](#)

<http://www.dnr.state.wi.us>
[Legal notices and disclaimers](#)
 Last Revised: 02/28/2001



Well Construction Reports



WELL # 26

WI Unique Well No:	AC716	High Capacity Well No:	594
DNR Region:	West Central	County:	La Crosse
Muni Type:	C	Municipality:	LA CROSSE
Completion Date:	04/15/1988 mm/dd/yyyy	DNR Received Date:	05/02/1988
Constructor:	LAYNE NORTHWEST COMPANY	Constructor Address:	W229 N5005 DUPLAINVI
Constructor City:	PEWAUKEE	Constructor State:	WI
Constructor Zip:	53072	Well Address:	AIRPORT RD
Subdivision:	AIRPORT	Township:	16 N
Range:	7 W	Section:	7
Quarter Section:	NW	Quarter-Quarter:	NW
Status:	New Well	Original Year:	
Construction Type:	1	Category:	Municipal/Community
Well Depth:	93.6 ft	Facility Type:	CITY
Highest Point on Property:	Yes	In Floodplain:	No
Reverse Rotary:	Yes	Temp Casing Diameter:	54 in
Temp Casing Removed:	Yes	Screen Diameter:	26 inches
Screen Description:	S/STEEL JOHNSON	Screen From:	57.5 feet <i>35 FEET</i>
Screen To:	92.5 feet	Sealant Method:	TREMIE
Static Water level:	17.5 feet	Pumping level:	33 feet
Pumping at:	2000	For:	8 Hour(s)
Well Starting Depth:	18 inches Above Ground	Developed:	Yes
Disinfected:	Y	Capped:	Yes
Proper Seal:	Yes	Contractor Signed on:	04/26/1988
Rig Operator Signed on:	04/15/1988	Common Well Number:	026
Calculated Specific Capacity:	1296	DNR Facility ID:	632030960

Distances in Feet to Nearest Objects

No Records returned

Drillhole Dimensions

Diameter (in)	From Depth (ft.)	To Depth (ft.)
48	0	93.5

Casing & Liner

Diameter (inches)	Description	From Depth (ft.)	To Depth (ft.)
26	BL. NEW STEEL P.E. WELDED 125.5# API 5L LA BARGE	0	57.6
36	BL. NEW STEEL P.E. WELDED 189.6# API 5L LA BARGE	1	55.5

Grout or Other Sealant Materials

Kind of Sealing Material	From Depth (ft.)	To Depth (ft.)	Amount	Units
CONCRETE	0	50.6	14	
NEAT CEMENT	50.6	55.6	26	

Geology

Geology	Geology Description	Driller's Description	USGS Code	From Depth (feet)	To Depth (feet)
I	Soil - Organic;	TOP SOIL		0	5
SG	Sand; w/Gravel/Cobbles/Boulders/Stones;	SAND @ GRAVEL BR		5	10
MS	Medium; Sand;	MED. BR. SAND		10	20
TS	Tan/Brown; Sand;	MED. TO COARSE SAND BR.		40	70
MS	Medium; Sand;	MED. SAND		70	85
NS	Fine; Sand;	FINE TO MED. SAND BR.		85	93.6

Samples

APPLICATION FOR PAYMENT

Estimate No. 3 Page Final

PROJECT Test Well 1

Period: 4-13-01

TO OWNER: Town of Campbell

FROM CONTRACTOR: Mark J. Trout Wells

ENGINEER:
Davy Engineering Co.
115 S. 6th Street, P.O. Box 2076
La Crosse, WI 54602-2076
(608) 782-3130

CHANGE ORDER SUMMARY

No.	Date	Description	Amount
1.		<u>move date</u>	
2.		<u>pull back well</u>	<u>8500-</u>
3.			
4.			
5.			
Net Total:			<u>8500-</u>

PAYMENT APPLICATION

1. Original Contract	<u>51460-</u>
2. Net Change Orders	<u>8500-</u>
3. Current Contract (1+2)	<u>59960-</u>
4. Total Work Completed	<u>49387-</u>
5. Materials on Hand	<u>-0-</u>
6. Subtotal (4+5)	<u>49387-</u>
7. Retainage	<u>-0-</u>
8. Less Previous Application(s)	<u>39439-</u>
9. DUE THIS APPLICATION (6 minus 7 minus 8)	<u>9948-</u>

SCHEDULE

Completion Date:	Revised Date:
Days Remaining:	On Schedule: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

MATERIALS ON HAND BREAKDOWN*

Description	Amount
*Documentation Attached	Total:

CONTRACTOR'S CERTIFICATION:

The undersigned CONTRACTOR certifies that (1) all previous progress payments received from OWNER on account of Work done under the Contract have been applied on account to discharge CONTRACTOR'S legitimate obligations incurred in connection with Work covered by prior Applications for Payment; (2) title of all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by his Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and (3) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

ENGINEER'S RECOMMENDATION:

Payment of the above amount DUE THIS APPLICATION is recommended.

ENGINEER **DAVY ENGINEERING CO.**

BY: [Signature]

DATE: 5/14/01 Project No. 1331-050

CONTRACTOR: Mark J. Trout

BY: [Signature]

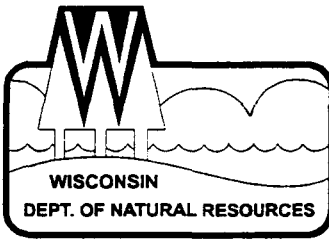
DATE: 4-13-01

APPROVED BY OWNER:

OWNER: Town of Campbell

BY: [Signature]

DATE: 6-6-01



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary
RECEIVED
DAVY ENGINEERING CO.

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TDD 608-267-6897

AUG 21 2001

August 13, 2001

LINDA GREENE CLERK
TOWN OF CAMPBELL
2219 BAINBRIDGE STREET
LA CROSSE WI 54603

Approval Number: W-2001-0687
PWSID#: 63211093
DNR Region: WCR
County: LA CROSSE

SUBJECT: TEST WELL #1 REPORT-JUNE 2001, TOWN OF CAMPBELL, WISCONSIN

Dear Ms. Greene:

The Division of Water has received a report on test well #1, Town of Campbell, La Crosse County, Wisconsin. Mr. Allan Scheer, Professional Geologist, Davy Engineering Company, La Crosse submitted the report for information and record. The department received the report on July 23, 2001.

The test well was constructed with department approval W-2000-0841 dated October 26, 2000. The Town of Campbell did not propose a production well at this time. The data so collected from the test well construction has been compiled and the report completed by Davy Engineering in June 2001.

I inform you that the test well #1 report has been reviewed and filed. No further action will be taken. Please contact me with any question at (920) 492-5906.

Sincerely,

Kris C. Khatri, PE
Public Water System Section
Bureau of Drinking Water and Groundwater

CC: Michael, Davy, Davy Engineering Co., 115 South 6th St., PO Box 2076 La Crosse, WI 54602
Charlie Cameron, DNR, La Crosse
Kris C. Khatri, NER
Lee Boushon, DG/2

File: C:\Data\Data-WCR-MC\Campbell Waterworks-Proposed\20010813 Test Well #1 Report by Davy.dot

1331-051.040