

Soil and Groundwater Investigation

SIR

at the

Dennis Malchow Property 3225 W. College Avenue, Appleton, WI

ERRP # 02-45-228649

December 6, 2000

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EXECUTIVE SUMMARY

adjacent to

OMNNI has completed the subsurface investigation for Mr. Dennis Malchow at the vacant lot located at 3225 W. College Avenue, Appleton, WI. The investigation was performed in response to the report of solvent contamination discovered during a separate petroleum investigation performed by OMNNI on the adjacent property. The release was reported to the DNR.

Research has shown that the site is a former dry cleaner.

OMNNI was contracted by the owner of the property to conduct an investigation at the site. In April 1999, a total of three soil borings were performed at the site to begin to identify the extent of soil contamination. Groundwater monitoring wells were constructed in all three of the borings to characterize the condition of the groundwater and to determine flow direction. Two wells from the petroleum investigation are also being used to monitor groundwater quality at the former dry cleaner site.

Analytical test results indicated that the extent of soil and groundwater contamination at the site had not been completely defined. Volatile organic compounds (VOCs) were detected above standards in the groundwater at the three new wells.

OMNNI returned to the site on September 7, 2000, to observe the installation of three additional groundwater monitoring wells. Results of testing from the three new wells indicated that the lateral extent of solvent contamination at the site has been defined. Results of the initial investigation are documented in a report prepared by OMNNI dated October 16, 2000.

On October 25, 2000, OMNNI coordinated the installation of three piezometers at the site to determine the vertical extent of groundwater contamination. A total of six shallow borings were also performed on November 3, 2000 to attempt to locate a former utility trench at the site. Based on analytical testing of groundwater samples from the piezometers and wells, the extent of contamination appears to be defined at the site.

OMNNI recommends that a remedial action plan be developed to address the soil and groundwater contamination. OMNNI also recommends that the monitoring wells and piezometers be sampled quarterly to continue to monitor the groundwater quality at the site.

INTRODUCTION/BACKGROUND

OMNNI was contracted to perform an investigation of the property. The site is located in the SW ¼, SW ¼, Section 28, T21N, R17E, Town of Grand Chute, Outagamie County, Wisconsin. (See Figure 1 - Site Location Map, Appendix 1.)

An investigation of the former Hardee's restaurant site, located adjacent to the vacant lot, was performed by OMNNI. During the petroleum investigation, a monitoring well (MW2) was placed on the vacant lot. Both petroleum and solvent contamination were present in the well. A second well (MW4) was placed on the vacant lot and more severe solvent contamination was detected. (See Figure 2 - Site Detail Map, Appendix 1.) The solvent contamination was reported to the DNR.

In April 1999 and September of 2000, OMNNI coordinated the installation of six soil borings on the vacant lot (SB1 – SB6). Groundwater monitoring wells were installed in all six of the borings (SMW1 – SMW6). Analytical testing of soil and groundwater indicated that the horizontal extent of contamination has been defined. OMNNI returned to the site on October 25, 2000, to coordinate the installation of three piezometers (SP1 – SP3). Six shallow soil borings (SB10 – SB15) were also performed to attempt to locate a former utility

trench on-site. This report documents the investigation performed in October 2000 and the most recent groundwater sampling event performed on November 2, 2000.

A total of eight monitoring wells and three piezometers are now being used to monitor the former dry cleaning site. The wells have been sampled between one and four times, depending on the date of their installation. The first sampling of the piezometers is documented in this report. The entire site will be sampled again in December 2000.

No private water supply wells are located on the property. The area businesses are serviced by municipal sewer and water.

The following are the primary contacts for the project:

Owner: Mr. Dennis Malchow, N3608 Vista Drive, Campbellsport, WI 53010-1833; (920) 533-3454.

Consultant: OMNNI Associates, One Systems Drive, Appleton, WI 54914; (920) 735-6900. Contact:

Mr. Dave Fries.

Driller: M & K Environmental and Soil Drilling, 214 S. Pershing Street, Howards Grove, WI 53083;

(800) 227-4158. Contact: Mr. Mike Mc Ardle.

Laboratory: U.S. Analytical Laboratory, 1090 Kennedy Avenue, Kimberly, WI 54136; (920) 735-8285.

Contact: Mr. Mike Ricker.

GEOLOGY AND HYDROGEOLOGY

The site is located in the Fox – Wolf River basin of Wisconsin. Surficial deposits in this basin consist of glacial sediment deposited during the Wisconsin glaciation. The glaciers were present during the Pleistocene period. United States Geological Survey maps (Water Resources of Wisconsin – Fox – Wolf River Basin, by Perry G. Alcott, 1968) indicate that the material in the vicinity of the site is composed of lake sediment consisting of silt and clay. These deposits overlie undifferentiated dolomite. These sedimentary rocks were formed during the Ordovician age.

Soil samples collected during drilling activities at the site consisted mostly of clay, silt, or silty clay to a depth of approximately 15 feet. (See Figure 3 - Diagrammatic Cross-Section of Stratigraphy from A – A', and Figure 4 - Diagrammatic Cross-Section of Stratigraphy from B – B', Appendix 1.) Bedrock was not encountered in any of the borings. According to the U.S.G.S. maps, bedrock is expected to be up to 100 feet deep in the vicinity of the site.

Topography on-site is relatively flat. Immediately off-site, the topography slopes downward to the west-southwest toward Mud Creek, which is located approximately ¼ mile from the site. Based on the topography and the investigation performed on the adjacent lot, the regional groundwater movement is expected to be to the west-southwest.

Based on data collected from the monitoring wells on September 13, 2000, the depth to groundwater varies at the site from approximately 5 – 8 feet below the ground surface. The shallow groundwater appears to mound around the former building foundation and flows radially outward in all directions. (See Figure 5 - Groundwater Elevation Contour Map, Appendix 1.)

Changes in the groundwater depth and flow direction typically occur seasonally. Other subsurface structures such as utility trenches may also influence groundwater flow direction at this site due to the shallow depth of the water table aquifer.

FIELD ACTIVITIES

SOIL BORINGS

Soil boring activities were performed on October 25 and November 3, 2000. A total of nine soil borings (SB7 – SB15) were performed on-site. Piezometers (SP1 – SP3) were constructed in three of the borings (SB7 – SB9) to determine the impact of the contamination on the groundwater. The remaining shallow borings were performed to determine if a former utility trench was acting as a conduit for contamination off-site.

Borings were installed to depths of approximately 12 - 30 feet. (See Soil Boring Log Information Forms, Appendix 3.)

Soil samples were obtained at 2½ foot intervals for field screening with a photoionization detector (PID) from borings SB10 – SB15. Since no evidence of contamination existed in these borings, and a former utility trench was not located, soil samples were not obtained for laboratory analysis. Since the extent of soil contamination has already been determined at the site, soil samples were also not collected from the piezometer locations.



PIEZOMETERS

Piezometers were constructed in three of the borings at the site to identify the extent of groundwater contamination. The piezometers were installed and developed according to NR 141 groundwater monitoring well requirements. (See Well Construction and Development Forms, Appendix 3.) Five-foot screens were placed in the wells at 30 feet deep to test the deeper part of the water table aquifer at the site.

OMNNI surveyed the wells. Elevations are based on the USGS datum. Ground elevation was surveyed to the nearest 0.1 foot, and the top of the well casing to the nearest 0.01 foot.

The three piezometers were developed on November 2, 2000. Initial groundwater samples were obtained from the piezometers on the same day. (See Handbook of Field Procedures, Appendix 4 and Well Specific Field Sheet, Appendix 3.)

recomendation of GW sampling

FIELD AND ANALYTICAL RESULTS

Headspace screening results from the six soil borings tested (SB10 - SB15) were all 0.0 ppm (isobutylene equivalents). (See Soil Boring Logs for Headspace Data, Appendix 3.) Field headspace results showed no evidence of contamination in borings SB10 - SB15.

The initial groundwater samples collected from the three piezometers were analyzed for VOCs. Laboratory analysis results showed preventive action limit (PAL) exceedances in piezometers SP2 and SP3. Piezometer SP3 was placed in the area found to be most severely contaminated during the initial phase of the investigation. Preventive action limit exceedances for cis-1,2-dichloroethene and tetrachloroethene were found in this piezometer. (See Table 2 - Summary of Laboratory Analysis, Groundwater – Historical, Appendix 2, and Laboratory Results and Chain of Custody Documentation, Appendix 5.)

ANALYSIS OF DEGREE AND EXTENT OF CONTAMINATION

The extent of soil and groundwater contamination has been defined to the extent practical. The vertical and horizontal extent of the soil contamination at the site was determined during the initial investigation. Samples collected during drilling activities from the borings show contamination extending to a depth of between 5-7

feet in some areas. The most severe soil contamination was found in borings B8 (MW4), SB1 (SMW1), and SB2 (SMW2).

Vertically, the groundwater contamination appears limited to the upper water table aquifer. The most severe groundwater contamination seems to be at MW4 and SMW1. Despite having some slight enforcement standard exceedances at the monitoring wells on the fringe of the plume, the lateral extent of groundwater contamination appears to be bounded by SMW4 to the north, by a point between SMW2 and SMW6 to the east, by MW2 to the west, and by SMW5 to the south. Laterally, the extent of groundwater contamination appears to be defined to the extent practical.

A former utility trench was not located on-site with the six shallow borings performed on-site.

Based on the water level elevations collected on September 13, 2000, the water table on-site is between approximately 5 and 8 feet below the ground surface. The shallow groundwater flow appears to be influenced by the former building foundation. Groundwater is mounded near the former foundation and flows radially outward from the foundation in all directions. The regional flow direction is expected to be toward Mud Creek, which is located to the west of the site.

CONCLUSIONS/RECOMMENDATIONS

Based on soil analytical data, unsaturated soil contamination exists in borings B8, SB1, and SB2. Saturated soil contamination extends to a depth of approximately 7 feet in some borings.

Groundwater contamination is limited to the upper aquifer and is most severe in the vicinity of MW4 and SMW1. Less contamination was observed in SMW2 – SMW5 and MW2. No contamination was found in SMW6.

A monitoring device installed in the intersection of the frontage road for College Avenue and S. Bluemound Drive can be used to monitor the presence of VOC contamination in the sanitary sewer.

OMNNI recommends that the monitoring wells and piezometers on-site be sampled quarterly to continue to monitor the groundwater quality at the site. OMNNI also recommends that a remedial action plan be developed to address the soil and groundwater contamination.

STANDARD OF CARE

The conclusions presented in this investigation were arrived at using generally accepted hydrogeologic and engineering practices. The conclusions presented herein represent our professional opinions, based on the data collected at the time of the investigation, at the specific boring and sampling locations discussed in this report. Conditions at other locations on the property may be different than described in this investigation. The scope of this report is limited to the specific project and location described herein.

Prepared By:	Dave)	
	Dave Fries, P.G.	
	Hydrogeologist	
Reviewed By:	Don Brittnacher	
_	Don Brittnacher, P.E.	
	Environmental Engineer	

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

(Professional Geologist)

"I, Don Brittnacher, hereby certify that I am a registered professional engineer in the state of Wiscommunity registered in accordance with requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was free are in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

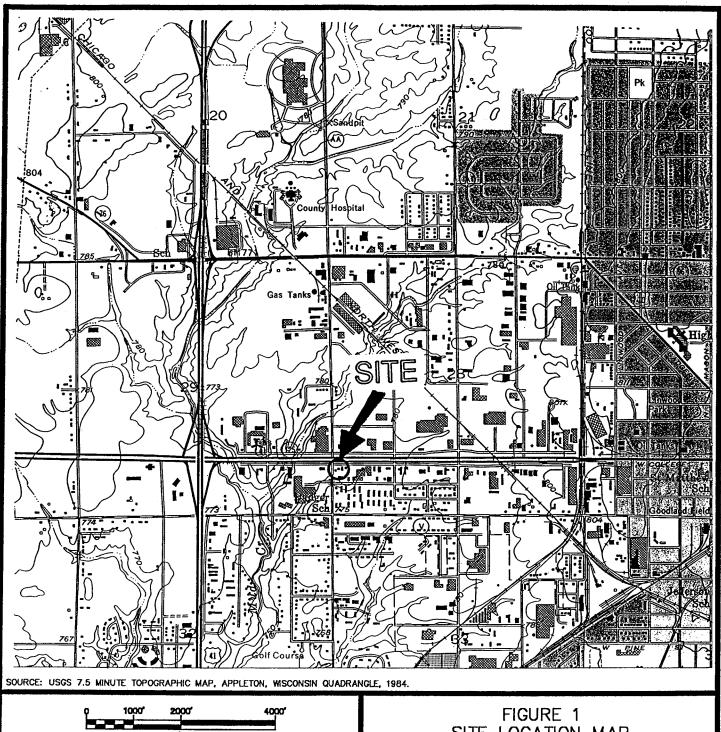
(Professional Engineer)

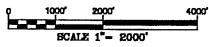
DISTRIBUTION:

Mr. Dennis Malchow N3608 Vista Drive Campbellsport, WI 53010

Ms. Jennifer Tobias DNR – Oshkosh Area Office 625 E. CTY HWY "Y" Suite 700 Oshkosh, WI 54901-9731

APPENDIX 1 FIGURES







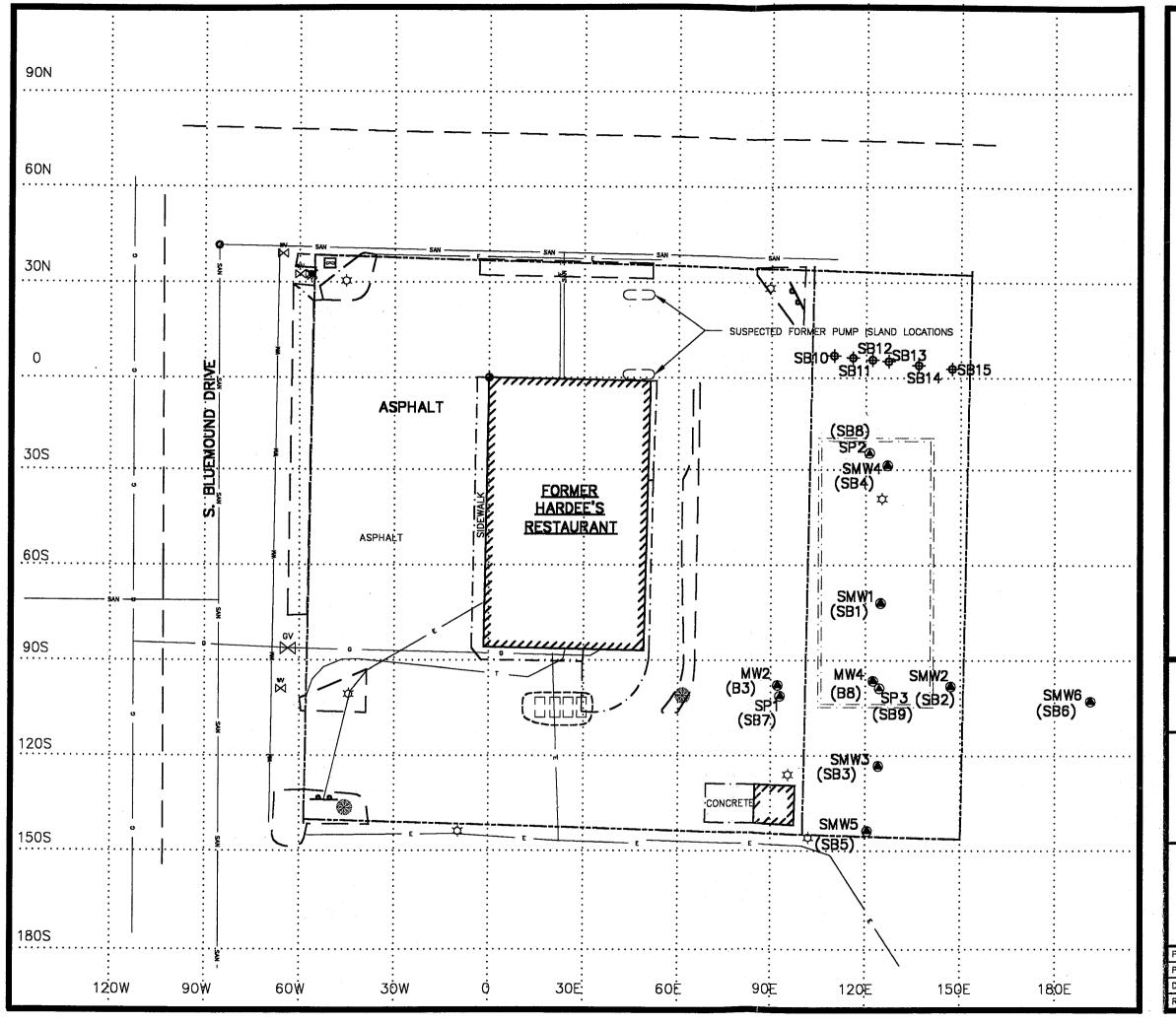
SITE LOCATION MAP

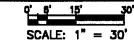
VACANT LOT 3225 W. COLLEGE AVENUE TOWN OF GRAND CHUTE, WISCONSIN

ONE SYSTEMS DRIVE APPLETON, WI 54914

PHONE (920) 735-6900 FAX (920) 830-6100

PROJECT MANAGER:	PROJECT NO:	N1556A99
PROJECT ENGINEER:	CAD FILE NO:	N1556A1
DRAWN BY: DL	D SCALE:	
REVIEWED BY:	DATE:	8/28/00





LOCAL GRID NORTH

LEGEND:

MW4 Well Location and I.D. No.

SB1♦ Soil Boring Location and I.D No.

Former Building Foundation

Suspected Former Tank Location

6,000 Gallon Gasoline USTs

Property Line

---- Approximate Limit of Excavation

- — Edge of Asphalt

---- Edge of Concrete Pavement

Building Face

Hydrant

Water Valve

GV
Gas Valve

— • — Gas Line

— 🖦 — Watermain

Telephone Cable

Telephone Booth

Sanitary Line with Manhole

—— = — Electrical Line

Reference Point
30N..... Grid Line (30' Interval)

FIGURE 2

SITE DETAIL MAP

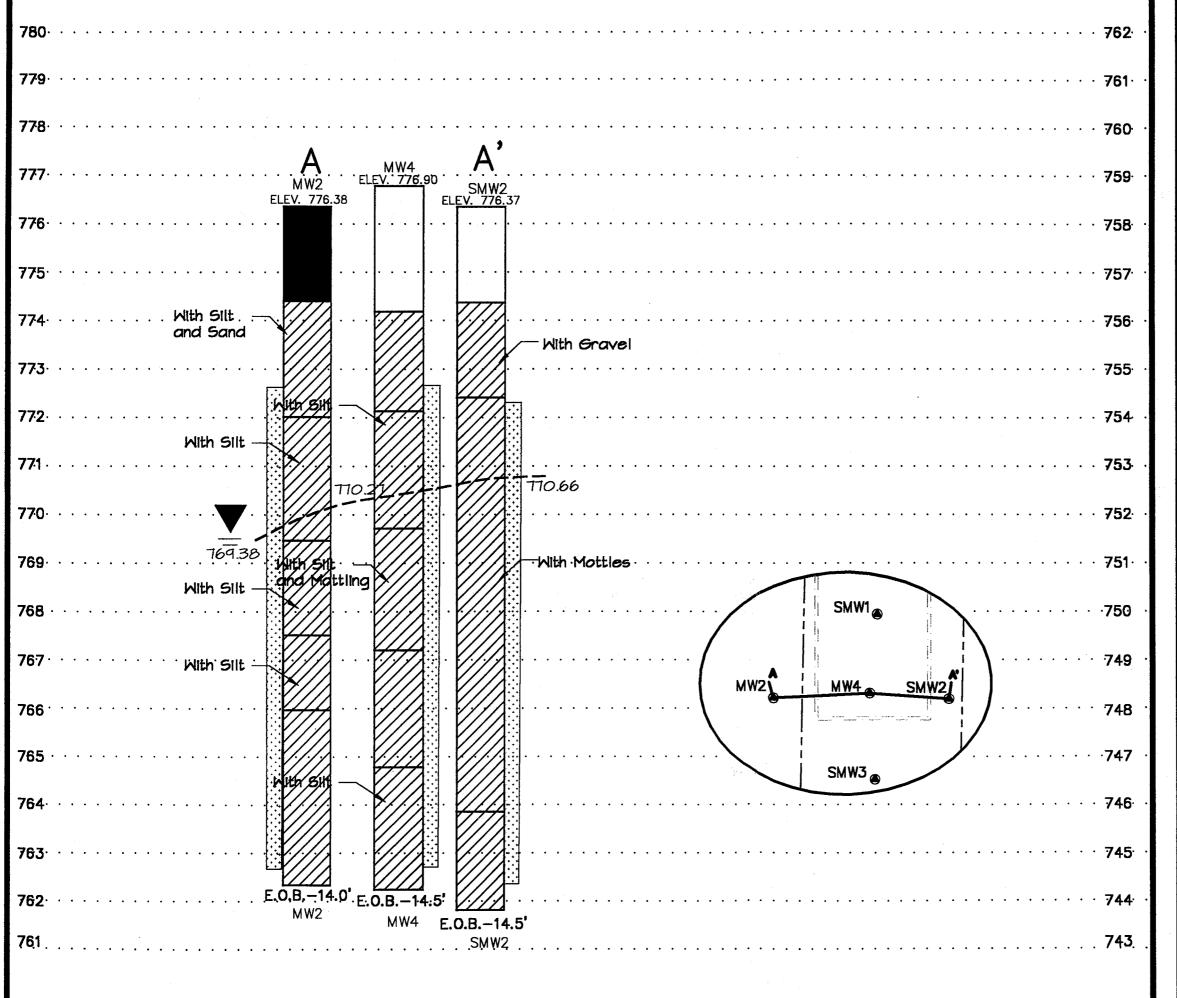
VACANT LOT
3225 W. COLLEGE AVENUE
TOWN OF GRAND CHUTE, WISCONSIN

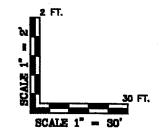


ONE SYSTEMS DRIVE APPLETON, WI 54914

PHONE (920) 735-6900 FAX (920) 830-6100

ROJECT MANAGER:	•	PROJECT NO:	N1556A99
ROJECT ENGINEER:		CAD FILE NO:	N1556A2
RAWN BY:	DLD	SCALE:	1"=30'
EVIEWED BY:		DATE:	10/2/00

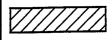




LEGEND:



Asphalt



Clay



Screened Interval



Water Table (9/13/00)

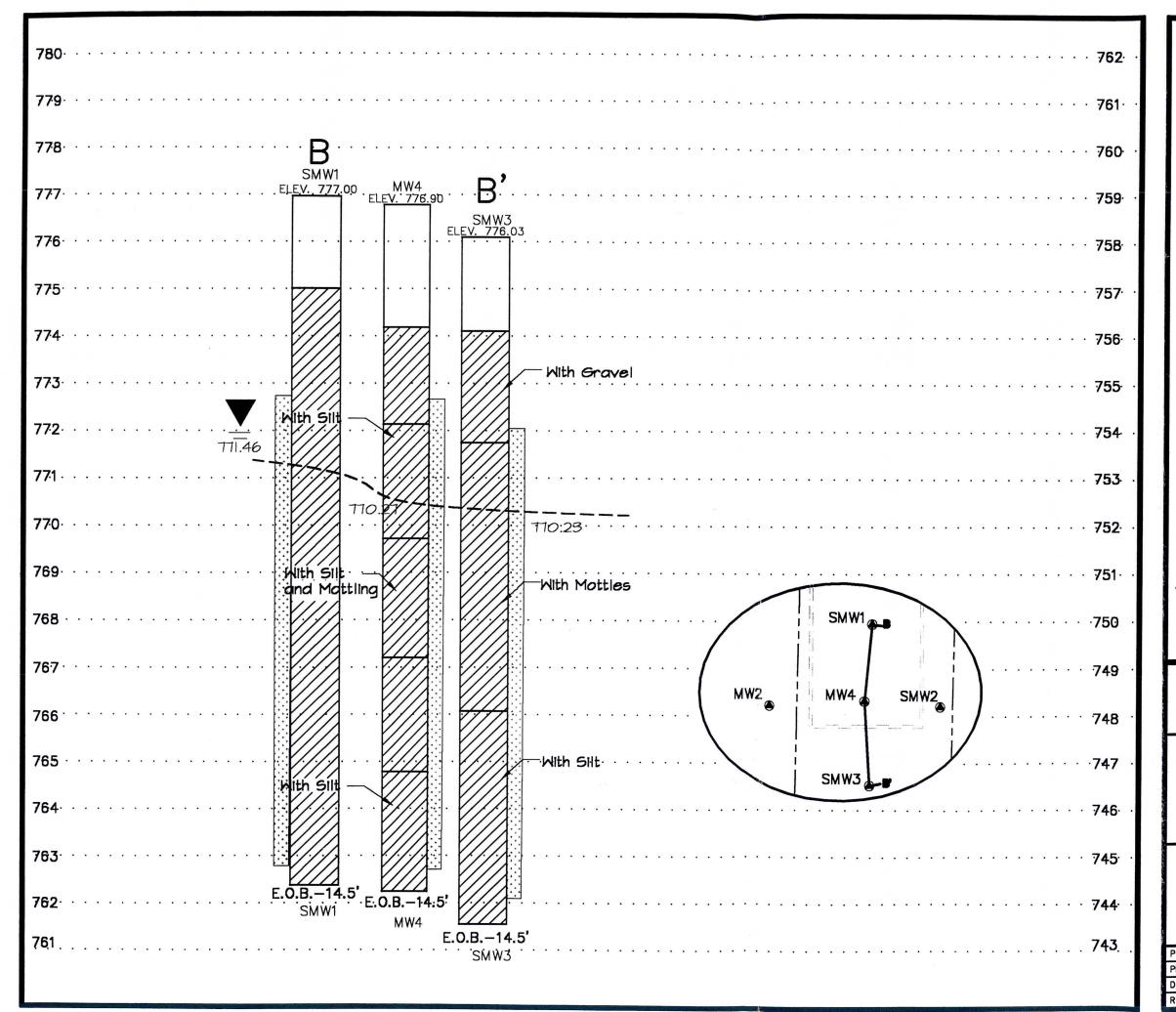
_____ Groundwater Line

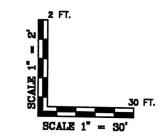
FIGURE 3
DIAGRAMMATIC CROSS-SECTION
OF STRATIGRAPHY FROM A TO A'

VACANT LOT 3225 W. COLLEGE AVENUE TOWN OF GRAND CHUTE, WISCONSIN

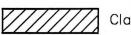


PROJECT MANAGER:	PROJECT NO:	N1556A99
PROJECT ENGINEER:	CAD FILE NO:	N1556A3
DRAWN BY:	SCALE:	
REVIEWED BY: DLD	DATE:	10/9/00





LEGEND:





Screened Interval



Water Table (9/13/00)

Groundwater Line

FIGURE 4
DIAGRAMMATIC CROSS—SECTION
OF STRATIGRAPHY FROM B TO B'

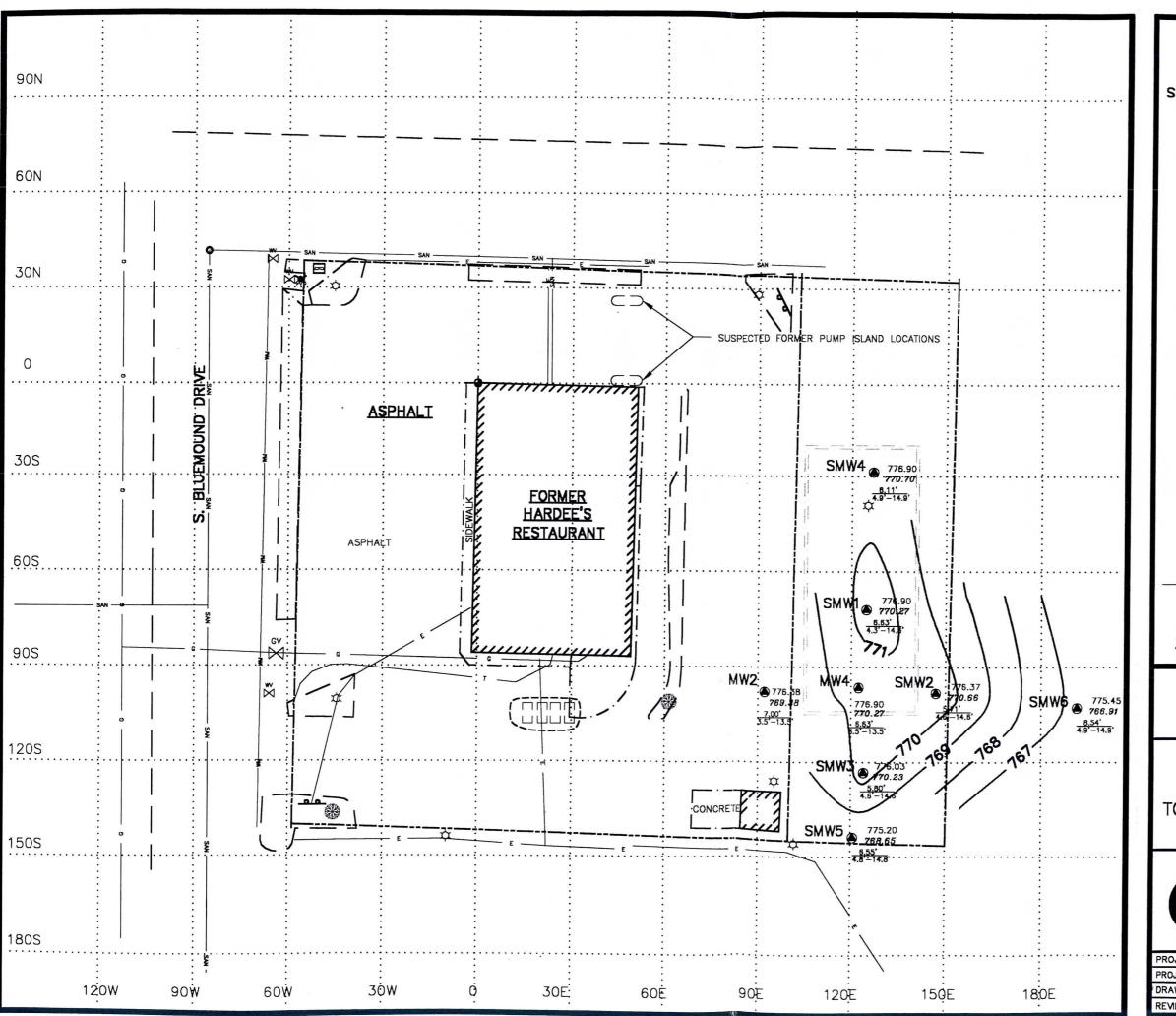
VACANT LOT 3225 W. COLLEGE AVENUE TOWN OF GRAND CHUTE, WISCONSIN



ONE SYSTEMS DRIVE APPLETON, WI 54914

PHONE (920) 735-8 FAX (920) 830-8

ROJECT MANAGER:		PROJECT NO:	N1556A99
ROJECT ENGINEER:		CAD FILE NO:	N1556A4
RAWN BY:		SCALE:	
EVIEWED BY:	חום	DATE:	10/9/00



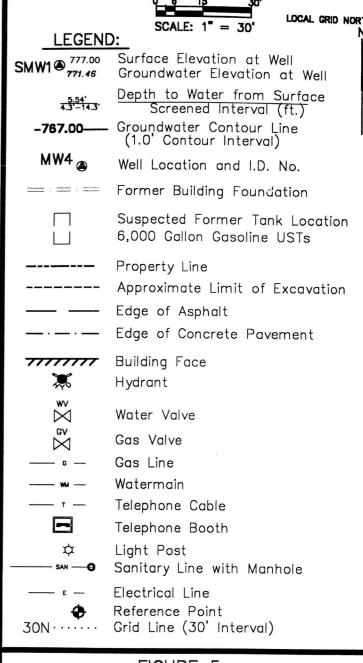


FIGURE 5 GROUNDWATER ELEVATION CONTOUR MAP (9/13/00)

VACANT LOT 3225 W. COLLEGE AVENUE TOWN OF GRAND CHUTE, WISCONSIN



ONE SYSTEMS DRIVE APPLETON, WI 54914 PHONE (920) 735-6900 FAX (920) 830-6100

PROJECT MANAGER:	PROJECT NO:	N1556A99
PROJECT ENGINEER:	CAD FILE NO:	N1556A2
DRAWN BY: DLD	SCALE:	1"=30'
REVIEWED BY:	DATE:	10/2/00

APPENDIX 2 TABLES

TABLE 1 SUMMARY OF LABORATORY ANALYSIS SOIL BORING SAMPLES

MARCH 30, 1998, JULY 8, 1998, APRIL 20, 1999, AND SEPTEMBER 7, 2000, SAMPLING EVENTS

	1			<u> </u>			<u> </u>	T	
PARAMETER	STANDARD	B3-3	B8-1	SB1-1	SB2-1	SB3-2	SB4-2	SB6-2	
SAMPLE DEPTH		7.0 - 9.0	2.5 - 4.5	2.5 - 4.5	2.5 - 4.5	5.0 - 7.0	5.0-7.0	5.0 - 7.0	
DETECTED VOCs (μg/kg)				-				_	
TERT-BUTYLBENZENE	_	<25	<25	460	<25	<25	<25	<25	
N-BUTYLBENZENE	_	<25	<25	1200	27	<25	<25	<25	
CIS-1,2-DICHLOROETHENE	_	<25	<25	<25	8600	<25	<25	<25	
TRANS-1,2-DICHLOROETHENE		<25	<25	<25	170	<25	<25	<25	
P-ISOPROPYLTOLUENE		<25	<25	280	<25	<25	<25	<25	
NAPHTHALENE	_	<25	52	300	52	<25	<25	<25	
N-PROPYLBENZENE	-	<25	<25	320	<25	<25	<25	<25	
TETRACHLOROETHENE	_	<25	5500	8200	1400	<25	160	<25	
TOLUENE	1500	<25	<25	<25	50	<25	<25	<25	
TRICHLOROETHENE	_	<25	<25	210	5300	<25	<25	<25	
1,2,4-TRIMETHYLBENZENE	_	<25	<25	350	<25	<25	<25	<25	
1,3,5-TRIMETHYLBENZENE	_	<25	<25	340	<25	<25	<25	<25	
VINYL CHLORIDE	_	<25	<25	<25	240	<25	<25	<25	
XYLENES	4100	<75	<75	<75	35	<75	<75	<75	

F:\ENVIRON1556A99\TABLES\SOIL

TABLE 2 SUMMARY OF LABORATORY ANALYSIS GROUNDWATER SAMPLES - HISTORICAL

Page 1 of 3

PARAMETER (µg/L)	MW2				MW4				SMW1					
SAMPLE DATE			4/21/99	9/24/99	1/6/00	9/13/00	4/21/99	9/24/99	1/6/00	9/13/00	4/21/99	9/24/99	1/6/00	9/13/00
ETECTED VOCs														
CIS-1,2-DICHLOROETHENE	70	7	NA	24	Marian Marian		NA	9.5		5.2	33		4	
TRANS-1,2,-DICHLOROETHENE	100	20	NA	0.53"J"	<0.38	<0.43	NA	<0.38	<3.8	<0.43	1.1"J"	1.2"J"	<3.8	<4.3
TETRACHLOROETHENE	5.0	0.5	NA	<0.35	<0.35	<0.34	NA	260	100	200	. 410	340	180	330
TRICHLOROETHENE	5.0	0.5	NA	21/0	<0.48	<0.46	NA	15	5.1	13	34	41	78	29
VINYL CHLORIDE	0.2	0.02	NA	0.24"]"	<0.15	<0.87	NA	<0.15	<1.5	<0.87	7.6	2.6	<1.5	<8.7
O-XYLENE	620	124	NA	<0.32	<0.32	<0.64	NA	<0.32	<3.2	<0.64	<0.32	<0.32	<3.2	<6.4

ES = enforcement standard

PAL = preventive action limit

= sample concentration detected above the preventive action limit

= sample concentration detected above the enforcement standard

"J" = Analyte detected between the method of detection and the method of quantification.

NOTE: MW2 AND MW4 were sampled previous to 4/21/99 as part of a separate investigation on the adjacent property. Results are not listed in this table.

PAENVIRON 1525 A 997 TABLES Missories

TABLE 2 SUMMARY OF LABORATORY ANALYSIS **GROUNDWATER SAMPLES - HISTORICAL**

Page 2 of 3

PARAMETER (μg/L)	ES	PAL			W2			SMW4						
SAMPLE DATE			4/21/99	9/24/99	1/6/00	9/13/00	4/21/99	9/24/99	1/6/00	9/13/00	9/13/00			
ETECTED VOCs														
CIS-1,2-DICHLOROETHENE	70	7	810	910	720	540	1000	650	910	1000	<0.37			
TRANS-1,2,-DICHLOROETHENE	100	20	<19	<19	<19	<4.3	20"J"	<19	9.1"J"	14	<0.43			
TETRACHLOROETHENE	5.0	0.5	35"J"	<18	39" J "	10"J"	<18	<18	<7	<3.4	50			
TRICHLOROETHENE	5.0	0.5	73"J"	54"J"	57"J"	29	130	63"Ј"	100	69	<0.46			
VINYL CHLORIDE	0.2	0.02	660	580	210	340	50	14"J"	<3	51 State	<0.87			
O-XYLENE	620	124	<16	<16	17"J"	<6.4	<16	<16	<6.4	<6.4	<0.64			

ES = enforcement standard

PAL = preventive action limit

= sample concentration detected above the preventive action limit = sample concentration detected above the enforcement standard

"J" = Analyte detected between the method of detection and the method of quantification.

TABLE 2 **SUMMARY OF LABORATORY ANALYSIS GROUNDWATER SAMPLES - HISTORICAL**

Page 3 of 3

PARAMETER (μg/L)	ES			SMW6	SP1	SP2	SP3					
SAMPLE DATE		9/13/00	9/13/00	11/02/00	11/02/00	11/02/00						
DETECTED VOCs												
CIS-1,2-DICHLOROETHENE	70	7	1402.9 1402.9	<0.37	1.3	<0.37	(1) a(1)					
TRANS-1,2,-DICHLOROETHENE	100	20	1.7	<0.43	<0.43	<0.43	0.8 7"J"					
TETRACHLOROETHENE	5.0	0.5	<0.34	<0.34	<0.34	0.672T						
TRICHLOROETHENE	5.0	0.5	<0.46	<0.46	<0.46	<0.46	<0.46					
VINYL CHLORIDE	0.2	0.02	1.9"1"	<0.87	<0.2	<0.2	<0.2					
O-XYLENE	620	124	<0.64	<0.64	0.82"J"	<0.64	<0.64					

ES = enforcement standard

PAL = preventive action limit

= sample concentration detected above the preventive action limit

"J" = Analyte detected between the method of detection and the method of quantification. Piezometers SP1 - SP3 were not installed during the September 13, 2000, sampling event. APPENDIX 3
DNR FORMS

LL-dyaz.	- September 1			sources te To:	Watershed/Wastey	vater [7]	Waste I		ement l		orm 4	100-12	2	e entige	R	ev. 6-9	and the second
			#775	·Y.4V,	Remediation/Rede		Other [: #								
To-no	:	4 \$1					70 92	/De			Nagent	I	Boring	Page	YCT -	_of	•
Ι,		nni	رتح	Mil	chow Pro	pertv	License/Permit/Monitoring Number Boring Number Boring Number Boring Number Boring Number Date Drilling Completed Drilling Date Drilling Completed Drilling Date Drilling								r j		
Borin	-	•	(Firm	name an	d name of crew chie	f) . J	Date Dr	illing 25	Started	000		te Dril	ling C	omplet 120	_{පේ} රෙර්		ing Method HSA
	•	+ k			Dan .		m m	व व	y	уу	y m	m e Elevi	d d	уу	Уy		Diameter
JK	ique V	Vell N		DNR	Well ID No. Well	Name P	Final St	auc w	_Fcct	3		·		Fcct M	SL	renok E	
State	Plane			N.	igin (Check if esti	mated: 🔲) E S/C/N	Lat		-		"	Local (Grid L	ocatio	N .		ΠE
<u>5ω</u>	1/4 of	Su	1/4 of	Section	1 <u>28, T21</u> N	i, r <u>/7(e</u> w			Civil	Fown/C		- Villag		eel 🗆	<u>s</u>	•	Feet W
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San	ple ⇔ ⓒ				4.5								Soil I	ope	ties	<u> </u>	٠.
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

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SOIL BORING LOG INFORMATION

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This form is authorized by Chapters 261, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

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SOIL BORING LOG INFORMATION Form 4400-122 Rev. 6-97

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SOIL BORING LOG INFORMATION Form 4400-122 Rev. 6-97

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<u>5w</u>	1/4 of	SW	1/4 of	Section 2	8,T2	e			0 1		*	Valle		eet 🗆			_Feet□ W
Facilit	y ID			Cou	nty OUH	agamic	County C	ounty Code Civil Town/City/ or Village 4 5 Grand Chute									
Sam						. •							Soil I	Prope	rties		
Number and Type	Length Att. & Recovered (in	Blow Counts	Depth in Feet		And Geolo	k Description ogic Origin For Major Unit		nscs	Graphic Log	Well Diagram	OPT/CIP	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
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3	48"		Flo	. (avi de	ence of U	tility										
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Sa	Sample								1	7			_	т —	C-''	178		of _		
Number and Type	Length Au. & G Recovered (in)	Blow Counts	Depth in Feet		S An	oil/Roc d Geold Each l	k Descripti ogic Origin Major Unit	ion For		1808	Graphic	2	Well Diagram	PID/FID	Compressive Strength		Prope Fimit Fimit	Plasticity Index	P 200	RQD/ Comments
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			18																	
			77 - 74																	
			- - -				·		•											

Depart	ment o	onsin f Natu	ıral Re	sources			SOIL BORING LOG INFORMATION Form 4400-122 Rev. 6-97										
			Rou	le To:	_	astewater Redevelopment	Waste Other		ement	- yar - nespetali	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Krauscus (M. T.)	. <i>y</i>	and the second	ige, in Figure (Files)	And the Angle of t
Facili	y/Proje	ct Na	me	11.0	1 \ 6	Da nart.	License	/Perm	it/Mon	itoring	Numb	er	Boring	Page Numb	× 5,	<u>-of</u> B/4	
Borin	4 .	<u>nni</u> dBy(∤k	♣.	name and	name of crew	nperty dilli	Date Da	rilling	1L	000	ling C	Completed Drilling Method 1 20 00 900 P10					
WI Un	ique V	• •		DNR V	Well ID No.	Well Name	Final S	a d Latic W	Valor L		Surfac	n m e Elev			Be		Diameter
State I	Planc_ 1/4 of			N,	28,T2			1g	0 0	MSL Town	*		Grid L	Feet Mocation	N		inches E Feet W
L	scility ID County O Hagamic							ode 5		ra			wt				
Number and Type	Length Att. & <mark>전</mark> Recovered (in)	Blow Counts	Depth in Feet		And Geole	k Description ogic Origin For Major Unit		uscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit ad	Plasticity 37	P 200	RQD/ Comments
1 P	48			В	lack si	oroun clay	W)				0.0		M				9:22
2	48										0,0	•	υ				9.25
3	48				o evidence o	nce of util contamin					0.0		W				9;30

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

Firm.

DMNNI

Signature

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Sa	mple						T	1			7	T -	Soil		erties	of	7
Number and Type	Length Att. & 50 Recovered (in) 10	Blow Counts	Depth in Feet	·	Soil/Roci And Geolo Each M	Description gic Origin For Aajor Unit		USCS	Log	Well Diagram	PID/FID	Compressive Strength			2		RQD/ Comments
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Depart	ment o	f Natt	ral Re	sources							orm 4		2	254.	R	ev. 6-9)7		
	· · · · · · · · · · · · · · · · · · ·		Rout	с То:		Wastewater m/Redevelopment m/Redevelopment	Waste I Other [cment			•							
	:				.*							·		Page		_of			
Facili	y/Proje	ct Na	me	11.0	./	Property	License	/Perm	it/Moni	toring	Numb	टा	Boring	Numb	er S	B 1	5		
Borin	g Drilk	n // / xl By	(Firm r	ume an	d name of cre	w chief) .	License/Permit/Monitoring Number Boring Number SB 5 Date Drilling Started Date Drilling Completed Drilling Met										ing Method		
		+ K		M .	Dan		115		12.	000					00	0	resprot		
WILL	ique V	<u> </u>			Well ID No.	Well Name	m m Final St	b b V oits		y y	Surfac	m c Elev	d d	<u>y</u> y	y y Be	rchok	Diameter		
) 	- <u></u>		./ 	<u> </u>					_Fcct					Feet M	2732701		inches		
Boring State I		ion or	Local	Grid Or N	igin (Check	if estimated:) E S/C/N	Lat		• •			Local	Und L	ocation	n :N		DE		
<u>₹₩</u>	1/4 of	รพ	1/4 of	Section	28.T	21 N. R. 17 (DW			• •	<u>`</u>	•			eel 🗆			Feet□ W		
Facili	y ID			K	County	tagamie	County C	ode 5	Civik	Town!	City/o	r Villa	Village Chute						
Sam	ple					The factor of			-	100				Proper	rties				
	æ (jj	ts.	¥		Soil/Ro	ock Description						Š							
Number and Type	Length Aff Recovered	Blow Counts	Depth in Feet			ologic Origin For n Major Unit	·	uscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments		
(48		2	R	ed-bar	m clay w/					þО		હ				9:35		
2	48'			5†	hff (la	l-brown cla odor	y	·			o.6		W				9.40		
	36°	7			EDD	ence of util		<u>!</u>		٠	0.0		w				9:45		
		ify th	at the	inform	ation on this	form is true and co			st of m	y kno	wledg	e.							
Signet	me °		Davi	22	-		Firm•	0	MN	NI									
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SOIL BORING LOG INFORMATION

State of Wisconsin

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

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San	we स्ट		Ħ						T		1. ,	T	Soil	Prope			
Number and Type	Length An. & State Recovered (in)	Blow Counts	Depth in Feet	A	Soil/Rock Descr and Geologic Ori Each Major U	iption gin For nit	-	uscs	Graphic Log	Well	PID/FID	Compressive	Moisture Content		Plasticity Index	P 200	RQD/ Comments
			20														

	Watershed/Wastewater Remediation/Redevelopm		anagement [MONITORING WEI	LL CONSTRUC	CTION
Pacility/Project Name	Local Grid Location of V	Veli		Well Name		
: Vennis Malchow		Tr = 8:	E. DE.	SPI		
Facility License, Permit or Monitoring No.			ck if estimated: []	Wis. Unique Well No.	DNR Well ID	No.
Facility ID	Lat	"Long		JK918		
	St. Plane	_ft. N,	ft. E. S/C/N	Date Well Installed	125,200	00
Type of Well	Section Location of Wast	te/Source		m m	dd y y	Y Y
Well Code/_12	<u> 5W</u> 1/4 of <u>5W</u> 1/4 of	Sec. 28. T. 2	<u> </u>	Well Installed By: (F	erson's Name ar	nd Firm)
Distance Well Is From Waste/Source	Location of Well Relative u Upgradient	e to Waste/Source S Sidegradies	nt		Doge	_
Boundary ft.	d Downgradient					
A. Protective pipe, top elevation -12	6.32 ft. MSL		1. Cap and lock?	<u> </u>	XX Yes 🗆	No
B. Well casing, top elevation	6 09 ft. MSL		2. Protective cover p		,, –	
		THIS	a. Inside diameter	:	_7.	in.
-	6.3 fl. MSL		b. Length:			ft.
D. Surface seal, bottom_ 775.3 ft. MS			c. Material:		Steel .	4888888
12. USCS classification of soil near screen		经 1.8%	d. Additional prot	tection?	Other 🗆	And the same of
GP GMC GCC GWC S	W D SP D		If yes, describe			140
SM SC ML MH C	LAS CHU \	御間/ /	3. Surface seal:		Bentonite [30
13. Sieve analysis performed?	es A No		J. Surface scar.		Concrete 4	0 1
	ery □ 50				Other 🛘	
Hollow Stem Au			4. Material between	well casing and protecti		
	her 🗆 🔛			•	Bentonite []	30
			5. Annular space sea	i. e Grenul	Other ar Bentonite	3 3
	Air 🛛 01			ud weight Bentonite		3 5·
. Driming Wide [] 03 N	one #2 99			ud weight Bent		31
16. Drilling additives used?	es Ø/No		d % Bentoni	te Bentonite-c	ement grout	50
			cFt	volume added for any		
Describe			f. How installed:	T	Tremie 🗆	01
17. Source of water (attach analysis):				Tren	nic pumped [] Gravity	02
			6. Bentonite seal:	a. Benton	ite granules	08 33
E. Bentonite scal, top 7753 ft. MSL	1 6		, b. □1/4 in. □3	/8 in. 1/2 in. Bento		32
			c	·	Other	
F. Fine sand, top 7563 ft. MSL	or $\frac{200}{100}$ ft.		7. Fine sand material	: Manufacturer, produ	ct name & mesh	ı size
G. Filter pack, top 7543 ft. MSL	- 2200			O BMC		
•			b. Volume added			
H. Screen joint, top _ 7523 ft. MSL	or _240 ft.		8. Filter pack materia	ul: Manufacturer, produ	ct name and me	
			b. Volume added	ft	3	
L Well bottom _ 747.3 ft. MSL	or 270 ft.	TIP!		Flush threaded PVC so		23
J. Filter pack, bottom _ 746 8 ft. MSL	. 295			Flush threaded PVC sc		24
				0.77	Other 🗆	***
K. Borchole, bottom _ 746 8 ft. MSL	or 295 ft.		0. Screen material: _	PVC		
			a. Screen type:		•	
L. Borchole, diameter $\frac{8.3}{}$ in.	\			Conti	inuous slot [] Other []	01
M. O.D. well casing _207 in.			b. Manufacturer _	Bedrock		2 22
		\	c. Slot size: d. Slotted length:	-	0.01	_
N. I.D. well casing _ 1.93 in.		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	a. Sioued length: 1: Backfill material (t	salowe files-mast-1-1-	10.	
				ciów inicr pack):	None 📮	
hereby certify that the information on this fo	cm is true and correct to t	he best of my kno	wledge.			2 0000
Signature Dur	Firm	MNNI				

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. in accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

•		Watershed/Wastewa		Waste Man		MONITORING WE Form 4400-113A	LL CONSTRUC	CTION
	Facility/Project Name	Remediation/Redeve		Other		•		
:	Dennis Malchow		ft. f] N.] S	Tr DW.	Well Name SP 2		
	Facility License, Permit or Monitoring No.	Grid Origin Location	en	(Check	if estimated: ()	Wis. Unique Well No	DNR Well ID	No.
	Facility ID	St. Plane	ft. N		or ft. E. S/C/N	Date Well Installed	125120	00
	Type of Well	Section Location of	Waste/Sou	urce	- Ar	mm	ddyy	<u>v v</u>
	Well Code/ 12	<u>SW</u> 1/4 of <u>SW</u>	1/4 of Sec.	28,T. 21	N.R. 17	Well Installed By: (1	crson's Name a	nd Firm
	Distance Well Is From Waste/Source	Location of Well Re u [] Upgradient	lative to V	Vaste/Source Sidegradient	•] / . / /	Dar	_
	Boundary ft.	d Downgradie		Not Known				
	A. Protective pipe, top elevation	6.94 ft. MSL			. Cap and lock?		Æ Yes □	No
		6 63 ft. MSL_		2	. Protective cover p	pipe:		
	- ·				a. Inside diameter	:	<u>9</u> .	0 in.
		69 ft. MSL	- 11		b. Length:		_Ļ.	. <u>O</u> ft.
	D. Surface scal, bottom_ 775.9 ft. MS	Lor _ 1 Oft.	2004	2000000	c. Material:		Steel A	
1	12. USCS classification of soil near screen				4 A 44'4'1		Other 🗆	Service .
	GP C GMC GCC GWC S		1	MA	d. Additional prot If yes, describe		□·Yes □	No
	SM D SC D MLD MHD C	LO CHO	1		•	: <u> </u>		20
1	Bedrock □			3.	Surface seal:		Bentonite Concrete	
1	13. Sieve analysis performed?	cs 🗆 No		₩ \.			Other 🗆	****
ı		ary □ 50		4.	Material between	well casing and protect	live pipe:	****
1	Hollow Stem Au						Bentonite 2	30
1	Oti	her 🗆 📖					Other 🗆	
١	15. Drilling fluid used: Water □ 02	Air 🗆 01	₩	-5.	Annular space sea	l: a. Granu	lar Bentonite 🛘	33
ı	D :::: B	one D 99		- Ы	Lbs/gal m	ud weight Bentoni	ic-sand slurry 🗆	35
-		one Li				ud weight Ben		
1	16. Drilling additives used?	cs 🗆 No		₩ 4		te Bentonite-		50
1				₩ c.		volume added for any		
ı	Describe			f.	How installed:		Tremie [
١	17. Source of water (attach analysis):					110	mic pumped 🗍 Gravity 💋	
L				6.	Bentonite seal:	a. Bento	nite granules [
_	7759	1.0		 	b. □1/4 in. □3	/8 in. 1/2 in. Bent		
	E. Bentonite seal, top $_{-}775.9$ ft. MSL	or ft.			c,		Other 🗆	*****
F	F. Fine sand, top	or 200 ft.		1.	Fine sand material	: Manufacturer, produ	ıct name & mesi	h size
C	3. Filter pack, top 2549 ft. MSL	or 220 ft.			a. Volume added		3	
_	7579	2115		1797 /		ul: Manufacturer, prod	•	eshsize
	I. Screen joint, top _ 752.9ft. MSL					75 BMC	1 3	
L	. Well bottom	or 290 ft.	T	- r. /s /	Well casing:	Flush threaded PVC s		23
	Filter pack, bottom _ 747.4ft. MSL	. 795	/ 摊			Flush threaded PVC s		24
J.	_		、人種			· · · · · · · · · · · · · · · · · · ·	Other 🛘	
K	Borchole, bottom _ 747.4ft. MSL	or _ 295 ft.		المحملت	Screen material: Screen type:	PVC.	Eastern and 15%	
					. Garan type:	Con	Factory cut 🚁 tinuous slot 🔲	7 1 1 0 1
L	Borchole, diameter $\frac{53}{2}$ in.						Other	
M	I. O.D. well casing $\frac{207}{\text{in.}}$, p	. Manufacturer _ . Slot size:	Bedrock	0.01	i n.
N T	LD. well casing 1.93 in.	n _e =		\ d			10	ft.
ΤĄ	I. I.D. well casing -1.92 in.			11.1	Backfill material (t	below filter pack):	None 4	
Ti	ncreby certify that the information on this fo	Ym is true and so-	ot to the L	et of are language			Other 🗆	
Si	gnature	Firm			cuge.	· · · · · · · · · · · · · · · · · · ·		
	+ aur)	Irum	DM	INNI				

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•		Watershed/Wastewater [] Remediation/Redevelopment[Waste Ma	nagement	MONITORING WEL Form 4400-113A	L CONSTRUC Rev. 6-97	CTION
	Facility/Project Name	I ocel Grid I ocetion of Well			Well Name		
•	Vennis Malchow	ft.	ПХ. ПS	fr. DE.	5P3		
	Facility License, Permit or Monitoring No.	1.		k if estimated: ()	Wis. Unique Well No.	DNR Well ID	No.
	Facility ID	Lat	Long.	or	JK920	<u></u>	
		St. Planeft. 1		fl. E. S/C/N	Date Well Installed	125120	00
	Type of Well	Section Location of Waste/So	euroc	17 GF	Well Installed By: (Pe	d d y y	y y
	Well Code///	<u>≤ω</u> 1/4 of <u>≤ω</u> 1/4 of Sec	20.T.21	_n,r. <u>17</u>	MAK By. IT	Dan	na rim
	Distance Well Is From Waste/Source	Location of Well Relative to Upgradient s	Waste/Source Sidegradien	t.	-		
•	Boundary ft.	d Downgradient n	Not Known				
	A. Protective pipe, top elevation -77	6.86 ft. MSL		1. Cap and lock?		XX Yes □	No
į	B. Well casing, top elevation -77	6.58 ft. MSL.		2. Protective cover p		P	n.
•	C. Land surface elevation 77	6.9 ft.MSL	HI	a. Inside diameter b. Length:	:	$-\frac{7}{l}$.	in. In.
	D. Surface scal, bottom_ 775.9 ft. MS		100000	c. Material:		Steel	_
Ì	12. USCS classification of soil near screen		N. S.			Other 🔲	
ı	GP □ GM □ GC □ GW □ S		N. E. S.	d. Additional pro		□·Yes □	No
1	SM C SC C MLC MHC	ZW C SP C	B/ /:	If yes, describe	* <u> </u>		
1	Bedrock 🗆			3. Surface scal:		Bentonite 🛘	30
1	13. Sieve analysis performed?	Yes □ No				Concrete	******
1	14. Drilling method used: Rot	tary 🗆 50	*	4. Material between	well casing and protecti	Other 🔲	
1	Hollow Stem Au					Bentonite 2	30
ł	O	ther 🗆 🎆				Other 🏻	
1	15. Drilling fluid used: Water □ 02	Air 🗆 01		5. Annular space sea	d: a. Granula	ar Bentonite 🛘	33
1	* ***	Vone D 99	-	bLbs/gal m	and weight Bentonite	:-sand slurry□	35
Ī	· -	ione d)			ud weight Bente		31
1	16. Drilling additives used?	čes □ No			te Bentonite-c		50
ı	D			f. How installed:	volume added for any o	Tremie	۸.
1	Describe	——		I. now installed:	Tren	nie pumped [01 02
1	2.1.000000 of water (attach analysis):				4.5.0	Gravity 🕏	
Ł				6. Bentonite seal:		ite granules 📋	33
1	E. Bentonite scal, top _ 775.9 ft. MSI	(m / 5 c		b. 01/4 in. 03	3/8 in. 01/2 in. Bento	mite pellets 🔲	32
_				c,		Other 🗆	
F	Fine sand, top	Lor _ <u>20</u> 0 ft.			l: Manufacturer, produc	≄ name & mesl	
- G	i. Filter pack, top -754.9 ft. MSI	or 220 ft.	₩//	b. Volume added	~	3	
		2115			al: Manufacturer, produ		eshsize
H	I. Screen joint, top 252.9 ft. MSI			65	75 BMC	·	
3 .	Well bottom _ 7479 ft. MSI	or 290 ft.	- 1.24	b. Volume added O. Well casing:	Flush threaded PVC sci		23
T	Filter pack, bottom _ 7474 ft. MSI	Line Line			Flush threaded PVC sel		24
1). Screen material:	PVC	Other 🗆	
K	Borehole, bottom _ 747.4ft. MSL	or Z ft.		a. Screen type:		Factory cut	11
	Borchole, diameter $\frac{8.3}{2.2}$ in.			••		nuous slot	01
ĩ					7-1-1	Other 🗆	
М	L. O.D. well casing $\frac{207}{\text{in}}$ in.			b. Manufacturer _c. Slot size:	Bedrock	0.01	in.
. ,	LD. well casing _ 1.93 in.		\	d. Slotted length:			_ ft.
ľ	LD. well casing -1.92 in.		11	Backfill material (below filter pack):	None 💆	
Ti	nereby certify that the information on this for	orm is true and correct to the h	est of my longe	wicdee		Other 🛘	
Si	gnature	Firm					
	we of)	UV	INNI	•			

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State of Wisconsin Department of Natural Resources

MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater	Waste Management
Remediation/Redevelopment	Other
Facility/Project Name Malchow Property County Name Out	gamie Well Name SPI
	Wis. Unique Well Number TK9 1 8 DNR Well ID Number
1. Can this well be purged dry?	Before Development After Development 11. Depth to Water
2. Well development method	(from top of $\frac{22.83}{1.00}$ ft. $\frac{28.7}{1.00}$ ft.
surged with bailer and bailed 2 4 1	well casing)
surged with bailer and pumped	
surged with block and bailed 42	Date . 11,02,2000 11.02.2000
surged with block and pumped \Box 62	Date b. $\frac{1}{m} \frac{1}{d} \frac{02}{d} \frac{2000}{y} \frac{11}{y} \frac{02}{y} \frac{2000}{y} \frac{2000}{y} \frac{1}{y} $
surged with block, bailed and pumped 70	1
compressed air	Time c. 11: 40 am. 11:50 am.
bailed only	
pumped only	12. Sediment in well
pumped slowly	bottom
Other	13. Water clarity Clear 10 Clear 20
3 Time 1	Turbid □ 15 Turbid □ 25
3. Time spent developing well min.	(Describe) (Describe)
4. Depth of well (from top of well casising) -29.3 ft.	
5. Inside diameter of well $\underline{2.0}$ in.	
6. Volume of water in filter pack and well casing	
7. Volume of water removed from well $\underline{-}\underline{\mathcal{H}}.\underline{\mathcal{D}}$ gal.	Fill in if drilling fluids were used and well is at solid waste facility:
5. Volume of water added (if any) O_ gal.	14. Total suspended mg/l mg/l solids
. Source of water added	15. CODmg/lmg/l
	16. Well developed by: Name (first, last) and Firm
0. Analysis performed on water added? Yes No (If yes, attach results)	First Name: Pave Last Name: Fries Firm: OMNM Associates
	Firm: OMNM Associates
17. Additional comments on development:	

irst Dennis Last Malchow	I hereby certify that the above information is true and correct to the best of my knowledge.
acflity/Firm:	Signature: Aur
Street: 3225 W College Ave.	Print Name: Dave Frees
ity/State/Zip: Application, WI 54914	Firm: OMNNI Associates

=State of Wisconsin Department of Natural Resources

MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater	Waste Management
Remediation/Redevelopment	Other
Facility/Project Name County Name Out 4	gamie Well Name SPZ
	Wis. Unique Well Number DNR Well ID Number
2. Well development method surged with bailer and bailed surged with bailer and pumped surged with block and bailed surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other	Before Development After Development 11. Depth to Water (from top of well casing) Date b. 102700 ft. Date b. 102700 ft. Date b. 102700 ft. Date c. 10:420 a.m. 12. Sediment in well bottom 13. Water clarity Clear 10 Clear 120
Time spent developing well	Turbid 15 Turbid 25 (Describe) (Describe)
4. Depth of well (from top of well casising) -29.3 ft.	
Inside diameter of well $\underline{2} \cdot \underline{0} = in$.	
Volume of water in filter pack and well casing	Fill in if drilling fluids were used and well is at solid waste facility:
7. Volume of water removed from well 4. O gal.	14. Total suspended mg/l mg/l
- Volume of water added (if any) O _O gal.	solids solids
Source of water added None	15. COD mg/l mg/l
O. Analysis performed on water added? Yes No (If yes, attach results)	16. Well developed by: Name (first, last) and Firm First Name: Pave Last Name: Fries Firm: OMNM Associates
17. Additional comments on development:	

Name and Address of Facility Contact/Owner/Responsible Party cst Last Name: Mulcho w	I hereby certify that the above information is true and correct to the best of my knowledge.
rece: 3225 W College Ave.	Signature: Dula F
Street: 3225 W. Collège Ave.	Print Name: Dave Fries
By/State/Zip: Appleton, WI 54914	Firm: OMNNI Associates

State of Wisconsin Department of Natural Resources

MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Remediation/Redevelopm	_	ent	
Y	cat Other	Well Name	
	Dutagamie		S D7
	Code (Wis. Unique Wel	Number K920	DNR Well ID Number
1. Can this well be purged dry?	No 11. Depth to Wat	Before Dev	velopment After Development
2. Well development method	(from top of	23	01 ft 280 ft.
surged with bailer and bailed 41	well casing)	a ,	
surged with bailer and pumped			
surged with block and bailed 2	Date	11.0	7 7000 11 02 700
	Date	b	2, <u>2000</u> 11, 02, 200
surged with block, bailed and pumped 70			
	Time	1204	2 2 1 5 2 am.
hallad a_1	Time	c'_:	p.m.
	10 0-5	. 0	0. 20
manus di attivisti	12. Sediment in we	레 <u>-</u>	inches _ O inches
	bottom		,
	13. Water clarity	Clear 2 1 Turbid □ 1	0 Clear 2 20 5 Turbid □ 25
3. Time spent developing well5 min		(Describe)	(Describe)
4. Depth of well (from top of well casising) -29.0 ft.			
5. Inside diameter of well 2.0 in.			
6. Volume of water in filter pack and well casing	1.		
7. Volume of water removed from well	Till in it deiling fi	uids were used ar	nd well is at solid waste facility:
8. Volume of water added (if any) O ogal	14. Total suspende solids	zd	mg/l mg/l
2. Source of water addedNone	_ 15. COD		mg/l mg/l
10 4-1-:	- 16. Well developed	by: Name (first, k	ast) and Firm
10. Analysis performed on water added?	No First Name: Pa	VE	Last Name: Fries
(11 yes, anach results)	Firm: OMA	117 1	ociates
7 Additional community	Firm: OMA	100 455	ociates
7. Additional comments on development:			
		•	
			·
ame and Address of Facility Contact/Owner/Responsible Party			
Irst Dennis Last Malchow	I hereby certify to of my knowledge	hat the above info	ormation is true and correct to the best
		2	~
mcility/Rinn-	Signature:	-Jury JJ)

Dave

OMNNI

Associates

Print Name:

Firm:

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

(1) GENERAL INFORMATION		1401					
		(2) FACILITY NAME *					
Well/Drillhole/Borehole County Location * Out	tagamie	Original Well Owner (If Known) *					
5W 1/4 of SW 1/4 of Sec. 28; T. 21	_N; R. <u>/</u> 7	Present Well Owner * Dennis Malchow					
(If Applicable) # Gov't Lot *	Grid Number	Street or Ro	3608	Vista D	Prive		
Grid Location		City, State,	Zip Code	1			
* ft. N. S.,	* ft. E. W.		ampheN Il No! and/or N	Vame (If Applicab	WI Unique Well No.		
*		*	SBID		*		
* 3225 W. College Ave	nul	Reason For	Abandonment		in an lu		
City, Village * APD 10ton W1 549	14	Date of Ab	andonment		ing only		
WELL/DRILL'HOLE/BOREHOLE INFORMATION	/ (* //	13/00)			
		1	, ,	*			
3) Original Well/Drillhole/Borehole Construction Con	mpleted On	1	o Water (Feet)		— —		
(Date) $\frac{*}{1/3}$ $\frac{3}{00}$			z Piping Remo		es D No D Not Applicable		
— ()			Removed?		es Do No Not Applicable		
1 1 1 7	n Report Available?	Screen 1	Removed?		es D No Ø Not Applicable		
	Yes LI No	Casing	Left in Place?	L Y	es 🗌 No		
Drillhole		If No, E	xplain				
☐ Borehole							
		1	-	lelow Surface?	☐ Yes ☐ No		
Construction Type:	·	Did Sea	ling Material I	Rise to Surface?	Yes 🔲 No		
Drilled Driven (Sandpoint)	☐ Dug	Did Material Settle After 24 Hours? Yes No					
Other (Specify)		If Yes,	Was Hole Reto	pped?	☐ Yes ☐ No		
		(5) Require	d Method of P	Jaeing Sealing Ma	nterial .		
Formation Type:	•		ductor Pipe -		Conductor Pipe - Pumped		
Unconsolidated Formation	Bedrock	Dump Bailer Other (Explain) *					
Total Well Depth (ft) * Casing Dian	neter (in) *						
(From groundsurface) Casing Dept		· — ~					
· · · · · · · · · · · · · · · · · · ·	(☐ Neat Cement Grout monitoring well boreholes only ☐ Sand-Cement (Concrete) Grout					
Lower Drillhole Diameter (in.) *		_		ikide) Grout	Pontonite Dellate		
, ,		☐ Concrete ☐ Bentonite Pellets ☐ Clay-Sand Slurry ☐ Granular Bentonite					
Was Well Annular Space Grouted?	☐ No ☐ Unknown		y-Sand Sturry stonite-Sand Sl		Bentonite-Cement Grout		
If Yes, To What Depth?	Feet	i mber		•	Bentonite-Cement Grout		
,		Med Chi	pped Bentonite	3			
Sealing Material Used		From (Ft.)	To (Ft.)	*	Mix Ratio or Mud Weight		
* Asphalt * Bentonia	Patch	Surface) *	*	*		
* Bentonia	te	/ *	12*	*	*		
•	· .	*	*	*	*		
=							
*		*	*	*	*		
(8) Comments *				· · · · · · · · · · · · · · · · · · ·			
Name of Person or Firm Doing Sealing Work		Z****		o tivo co co	INTYUSE ONLY THE		
W. Joing Scanning Work							
Signature of Person Doing Work	Date Signed	7		elative services			
MIK / OMNNI	11/20/00	Dayes					
reet or Route	Telephone Number				Complyid Was		
· One Systems Drive	*920 - 735-6901	FAIR	EXTENSION OF THE PROPERTY OF				
City, State, Zip Code	,0 5 - 7						
Appleton, WI 54914		77274					

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

(1) GENERAL INFORMATION		(2) FACII	PTV NAME	*				
Well/Drillhole/Borehole County			(2) FACILITY NAME * Original Well Owner (If Known)					
Location	* Outagamee	*	CII OWIICI (II)	Kilowii)				
		Present W	all Oumer					
5 1/4 of Sw 1/4 of Sec. 2	8; T. 21 N; R. 17 N W	* L	ennis	Malcho	w			
(If Applicable) Gov't Lot	* Grid Number	Street or R	oute 13608	Malcho. Vista l	rive			
Grid Location		City, State	, Zip Code		1			
* ft. N. S.,	*ft. 🗆 E. 🗆 W.	**(amphel	report	W/ 53010			
*				Name (If Applicat	ole) WI Unique Well No.			
Street Address of Well		*	9811		*			
20- 1	lege Avenue	1	Abandonmen		ing only			
City, Village	5 Havy	Date of Al	andonment	. 1	The street			
	1 27919	* //	13/00	0	<i>V</i>			
WELL/DRILL'HOLE/BOREHOLE IN			r i					
(3) Original Well/Drillhole/Borehole	Construction Completed On	(4) Depth	to Water (Feet)	*				
(Date) * 11 / 3 /	00	Pump	& Piping Remo	oved?	es 🔲 No 💋 Not Applicable			
((Liner(s) Removed?		es 🔲 No 🗵 Not Applicable			
Monitoring Well	Construction Report Available?	Screen	Removed?		es No Not Applicable			
Water Well	Yes No	Casing	Left in Place?		es 🔲 No			
Drillhole Drillhole	Ì	If No. 1	Explain _*					
Borehole	•		•					
		Was C	asing Cut Off I	Below Surface?	☐ Yes ☐ No			
Construction Type:		1	•	Rise to Surface?	Yes No			
Drilled Dri	iven (Sandpoint) Dug	1 ·	terial Settle A		Yes No			
Other (Specify) *			Was Hole Reto		Yes No			
• • • • • • • • • • • • • • • • • • • •								
Formation Type:				Jaeing Sealing Ma				
Unconsolidated Formation	☐ Bedrock	1 —	nductor Pipe -		Conductor Pipe - Pumped			
		│	mp Bailer 🖳		Other (Explain) *			
Total Well Depth (ft)	_ Casing Diameter (in.) *	(6) Sealing	Materials		For monitoring wells and			
(From groundsurface)	Casing Depth (ft.)	☐ Ne	at Cement Gro	ut	monitoring well boreholes only			
_	at.	☐ Saı	nd-Cement (Co	ncrete) Grout	3			
Lower Drillhole Diameter (in.)	*		ncrete	,	Bentonite Pellets			
		☐ Cla	y-Sand Slurry		Granular Bentonite			
Was Well Annular Space Grouted	1? 🔲 Yes 🗌 No 🔲 Unknow		ntonite-Sand Si		Bentonite-Cement Grout			
If Yes, To What Depth?	Feet		ipped Bentonit					
7)		+ -	i	T	<u> </u>			
Sealing	Material Used	From (Ft.)	To (Ft.)	*	Mix Ratio or Mud Weight			
* A=	sphalt Patch sentonite	Surface) *	*	*			
*	entonite	/*	12-*	*	*			
*		*	*	*	*			
±								
		*	*	*	*			
(8) Comments								
9) Name of Person Firm Doing Se	alina Wade	9595000		****				
· Jour	ante war	<u>av</u>			INTO UNITED STATES AND THE			
Signature of Person Doing Work	J IData Cianad	Bate	COCCUCIONS	COLUMN TO SERVICE	District County 2			
MIK/UMNYI	Date Signed							
Annat on David		- Keyle	werthspector		Complying Work			
* One Systems Dri	Telephone Number *920 - 735-69	DATE:			Norcemplying Work			
City, State, Zip Code								
+ Appleton, WI 5	7714		The second second					

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

ode, whichever is applicable.						
(1) GENERAL INFORMATION	(2) FACILITY		*			
Well/Drillhole/Borehole County * Outagame	Original Well (Owner (If K	(nown)			
Location * Outagame Stu 1/4 of Sw 1/4 of Sec. 28; T. 21 N; R. 17 W	Present Well O	Owner 1015 l	Malchou	در		
Gov't Lot * Grid Number	Street or Route * N3	608	Malchou Vista D	Prive		
Grid Location * ft. □ N. □ S., * ft. □ E. □ W.	City, State, Zip	p Code	,	WI 53010		
Civil Town Name	Facility Well N	No. and/or N	lame (If Applicab	ole) WI Unique Well No.		
Street Address of Well	* Reason For Ab			*		
* 3225 W. College Avenue City, Village	** Fo	Soil	sampli	ing only		
* APP (Cton, W) 54914 WELLDRILLHOLE/BOREHOLE INFORMATION	* /1 =			V .		
	· · · · · · · · · · · · · · · · · · ·	,	*			
Original Well/Drillhole/Borehole Construction Completed On (Date) * 3 0 Monitoring Well Construction Report Available? Water Well Yes No Drillhole Borehole	Pump & Piping Removed? Yes No Not Applicable Liner(s) Removed? Yes No Not Applicable Available? Yes No Not Applicable Yes No Not Applicable					
LJ Borenole			· · · · · · · · · · · · · · · · · · ·			
Construction Type: Drilled Driven (Sandpoint) Dug Other (Specify)	Was Casing Cut Off Below Surface? Did Sealing Material Rise to Surface? Did Material Settle After 24 Hours? If Yes, Was Hole Retopped? Yes No Yes No					
Formation Type: Unconsolidated Formation Bedrock	(5) Required Method of Placing Sealing Material Conductor Pipe - Gravity Dump Bailer Conductor Pipe - Pumped Other (Explain) *					
Total Well Depth (ft) Casing Diameter (in.) * (From groundsurface) Casing Depth (ft.) *	(6) Sealing Materials For monitoring wells and Neat Cement Grout monitoring well boreholes only					
Lower Drillhole Diameter (in.) *	Sand-Cement (Concrete) Grout Concrete Bentonite Pellets					
Was Well Annular Space Grouted? If Yes, To What Depth? Yes No Unknown Feet		and Slurry nite-Sand Sluce and Bentonite	urry -	Granular Bentonite Bentonite-Cement Grout		
(1) Sealing Material Used	From (Ft.)	To (Ft.)	*	Mix Ratio or Mud Weight		
* Asphalt Patch Bentonite	Surface) *	*	*		
* Bentonite	/*	12'*	*	*		
*	*	*	*	*		
	*	*	*	*		
8) Comments *						
Name of Person or Firm Doing Sealing Work	(D)	. 40 . We When	RDNR DR GOL	DEMANCACION		
ignature of Person Doing Work Mik / UMNN / 11/20/00	Reviewer	ilisteed o		Complyid AWata		
rect or Route * One Systems Drive Telephone Number *920-735-690	Rollov-si	√		Nercomplying Valls		
Sky, State, Zip Code						

All abandonment work shall be performed in accordance with the provisions of Chapters NR 811, NR 812 or 141, Wis. Admin. Code, whichever is applicable. (1) GENERAL INFORMATION (2) FACILITY NAME

Well/Drillhole/Borchole	County	Onininal II	/-11 O (C.)	V\	
Location	* Outagame	*	ell Owner (If I	Known)	
540 1/4 of Sw 1/4 of Sec. 28		Present W	ell Owner Ennis	Malcho	W
# Govit Lot	* Grid Number	Street or R	oute 13608	Vista 1	Drive
Grid Location	-	City, State	,Zip Code		3
* ft. N. S., Civil Town Name	* ft. 🗆 E. 🗆 W.			Name (If Applicat	ble) WI Unique Well No.
* Street Address of Well			SB13 r Abandonmen	•	*
* 3225 W · Col	lege Avenue	**	FOI 5011	· · · · · · · · · · · · · · · · · · ·	ing only
* Appleton, WI	54914	Date of Ab	andonment 03	ر ا	
WELL/DRILL'HOLE/BOREHOLE IN			1-1-		
(3) Original Well/Drillhole/Borehold (Date) * 1/3	Construction Completed On		o Water (Feet) & Piping Remo		(es \(\sum \) No \(Applicable \)
			c riping Kenic) Removed?		(es No Not Applicable (es No Not Applicable
Monitoring Well	Construction Report Available?	i	Removed?		Tes No A Not Applicable
Water Well Drillhole	Yes No	1 -	Left in Place?	□ <i>1</i>	Ces No
Borehole	1	If No, I	Explain		
		Was Ca	sing Cut Off I	Below Surface?	☐ Yes ☐ No
Construction Type: Drilled Driv				Rise to Surface?	A Yes ☐ No
Other (Specify) *	ven (Sandpoint) Dug	1	terial Settle Al Was Hole Reto	fter 24 Hours? opped?	Yes A No
Formation Type:		(5) Require	d Method of P	Jaeing Scaling M	aterial
Unconsolidated Formation	☐ Bedrock		nductor Pipe - mp Bailer	Gravity	Conductor Pipe - Pumped Other (Explain) *
Total Well Depth (ft) *	Casing Diameter (in.)	<u> </u>	Materials		For monitoring wells and
(From groundsurface)	Casing Depth (ft.)	1 ~~~	at Cement Gro		monitoring well boreholes only
Lower Drillhole Diameter (in.)	*	. –	nd-Cernent (Co ncrete	ncrete) Grout	Bentonite Pellets
		1 —	y-Sand Slurry		Granular Bentonite
Was Well Annular Space Grouted	*	. –	tonite-Sand S	lurry	Bentonite-Cement Grout
If Yes, To What Depth?	Feet	Chi	pped Bentonit	e	
(7) Sealing I	Material Used	From (Ft.)	To (Ft.)	*	Mix Ratio or Mud Weight
* As	ephalt Patch entonite	Surface) *	*	*
* B	entonite	/*	12'*	*	*
*		*	*	*	*
*		*	*	*	*
8) Comments *					L
) Name of Person or Firm Doing Sea	1'- 37	- Committee			
ave I ave	THIRE MOLK	(10) (a)	ole dycaling.	RDNRORGO	INTY USB ONLY TOO
ignature of Person Doing Work	Date Signed				
MAK / UMNNY	11/28/00	Reyre	ver/inspector		Complying Work
one Systems Dri	Telephone Number #920 - 735-690	RATIVE			□ Nervembyn vys
ity, Since, Zip Code + Appleton, WI 54					
7-141-001 001 3		j			

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

(1) GENERAL INFORMATION			(2) FACIL	ITY NAME	*					
Well/Drillhole/Borehole	County	, -		ell Owner (If	Known)					
Location * Outagame				*						
5W 1/4 of SW 1/4 of Sec. 28	_	N; R. 17 W	Present We	ell Owner CNN iS	Malchoi Vista D	W				
(If Applicable)			Street or Re	oute	16.1.7	2:10				
Gov't Lot	*	Grid Number	* N	3608	Vista l	MIVE				
* ft. 🗆 N. 🗆 S.,		<u>*</u> ft. □ E. □ W.	City, State,	Zip Code amphel	Sport	W/ 53010				
Civil Town Name			Facility We	ll No! and/or l	Name (If Applicat	ole) WI Unique Well No.				
Street Address of Well			*	5B14		*				
* 3225 W. Coll	ege Ave	inul	Reason For Abandonment ** For Soil Sampling only							
city, Village * APP leton WI	5491	14	Date of Ab							
WELL/DRILL'HOLE/BOREHOLE IN	FORMATION		1 '!	1 100	<u> </u>					
3) Original Well/Drillhole/Borehole	Construction Cor	nnleted On	(4) Depth t	o Water (Feet)	*					
	00	apicaca Oir		Piping Remo		es No Not Applicable				
			1	Removed?		es No Not Applicable				
Monitoring Well	Construction	n Report Available?	Screen	Removed?		es No Not Applicable				
Water Well	- □ Y	ćes □ No	Casing	Left in Place?		res □ No				
Drillhole Borehole	l		If No, E	Explain						
Li Borenoie										
Construction Type:			1	•	Below Surface?	Yes No				
	en (Sandpoint)	Dug	1		Rise to Surface?	Yes No				
Other (Specify) *	cu (Saudponik)	□ Dag		veriai Settie Ai Was Hole Reto	fter 24 Hours?	Yes A No				
			<u> </u>							
Formation Type:		et.			laeing Scaling Ma					
Unconsolidated Formation	□в	edrock		nductor Pipe - on Bailer		Conductor Pipe - Pumped				
Total Well Depth (ft) *	. Casing Diam	estan Gm \ *				Other (Explain) *				
(From groundsurface)	Casing Diam Casing Deptl			Materials at Cement Gro		For monitoring wells and				
,			1 —	d-Cement (Co		monitoring well boreholes only				
Lower Drillhole Diameter (in.)	* 		. —	acrete	dade, Grout	Bentonite Pellets				
	_			y-Sand Slurry		Granular Bentonite				
Was Well Annular Space Grouted?	?	☐ No ☐ Unknown	☐ Ben	tonite-Sand Sl	lurry	Bentonite-Cement Grout				
If Yes, To What Depth?	<u> </u>	Feet	Chi	pped Bentonit	e	I				
Sealing A	Material Used		From (Ft.)		<u>.</u>					
			From (Ft.)	To (Ft.)	*	Mix Ratio or Mud Weight				
* As	phalt	Patch le	Surface) *	*	* .				
* B	entoni t	'e	/*	12 *	*	*				
=‡			*	*	*	*				
:=k		"	*	*	*	*				
8) Comments *										
Name of Person of Firm Doing Sea	line West		199920164	and the same of the same of						
traine of Figure Doing Sea) mile work		(10)			INTLATIZE OUR A STOR				
Signature of Person Doing Work		Date Signed	Sales in	TO THE PARTY OF	Sizil Andrews	District, Country, 1				
Signature of Person Doing Work MIK/UMNN/		11/20/00	D 2000							
ment or Double		Telephone Number				Complying Way				
One Systems Dri	ve	*920-735-6901	Rálio	OUP NAMES AN						
City. State, Zip Code Appleton, WI 54										

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

(1) GENERAL INFORMATION	(2) FACII	ITY NAME	*	
Well/Deilhole/Posshole County		ell Owner (If)		
Location * Outagamee	*			
5W 1/4 of 5W 1/4 of Sec. 28; T. 21 N; R. 17 W	Present We	ell Owner Ennis	Malcho	W
# Gov't Lot # Grid Number Grid Location	Street or R	oute 13608	Malcho Vista l	Prive
*ft.	City, State	ampbel		W/ 53010
*	Facility We	ell No! and/or l 5B	Name (If Applicat	ole) WI Unique Well No.
Street Address of Well * 3225 W. College Avenue	3	Abandonmen		i 19 (
City, Village * APD WAT 54914	Date of Ab	andonment	. 1	ing only
WELL/DRILL'HOLE/BOREHOLE INFORMATION	* //	13/00)	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) * 11 3 0 0	Pump &	o Water (Feet) & Piping Remo	oved? 🔲 Y	es No Not Applicable
Monitoring Well Water Well Drillhole Borehole Construction Report Available? Yes No	Screen Casing	Removed? Removed? Left in Place? Explain	□ Y	Yes No Not Applicable Yes No Not Applicable Yes No
Li Budiole	Was Ca	sing Cut Off F	Below Surface?	☐ Yes ☐ No
Construction Type: Drilled	Did Sea Did Ma	•	Rise to Surface? fter 24 Hours?	Yes No Yes No Yes No
Formation Type: Unconsolidated Formation Bedrock	₽ Co₁	d Method of P nductor Pipe - mp Bailer	_	aterial Conductor Pipe - Pumped Other (Explain) *
Total Well Depth (ft) Casing Diameter (in.) (From groundsurface) Casing Depth (ft.) *	☐ Nea	Materials at Cement Grou		For monitoring wells and monitoring well boreholes only
Lower Drillhole Diameter (in.) *		d-Cement (Co	ncrete) Grout	Bentonite Pellets
Was Well Annular Space Grouted? If Yes, To What Depth? Yes No Unknown Feet	D Ber	y-Sand Slurry stonite-Sand SI pped Bentonite	•	Granular Bentonite Bentonite-Cement Grout
(7) Sealing Material Used	From (Ft.)	To (Ft.)	*	Mix Ratio or Mud Weight
* Asphalt Patch	Surface) *	*	*
* Asphalt Patch * Bentonite	/ *	12*	*	*
*	*	*	*	*
*	*	*	*	*
(8) Comments *				
(9) Name of Person of Film Doing Sealing Work	(10)	100	REDNROR COL	INTERCORD ONLY (Late)
Signature of Person Doing Work Date Signed			20.0	
MIK / OMNN/ 4/20/00	Representation	(ei/lisp.com		Comby#AWiA
* One Systems Drive Telephone Number *920-735-690		o N		Note on plying Week
City. State, Zip Code * Appleton, WI 54914				

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Chapter 281 and 289, Wis. Stats.
Form 4400-89

Rev. 7-98

Pacility 1	Name IChou	U PI	o peffy	Fac	ility	ID Number	License	e, Perm	nit or Monitoria	ng No. Date	161	100	Complet	ted By (Name a	nd Firm)	OMN	NI	450	SOC	ias	45
WI		DNR	, , , , , , , , , , , , , , , , , , , ,	D	ir.		Well (tions		rence		Depths	<u> </u>			Γ			
Unique Well No	Well Name	Well ID Number	Well Location	N E	S W	Date Established	Diam.	Туре	Top of Well Casing	Ground Surface	MSL (√)	Site Datum	Screen Top	Initial Groundwater	Well Depth	Screen Length	Well Type				Distance to Waste
	MW2		•			3/30/98	2"	PVC	776.04	776.4	1		772.9	3.81	13.5'	10			Y	-	
	MW 4					7/9/98	Zu	pK	776.52	776.9	(773,4	6.03	13.5	10'			4		
	Smwl					4/20/99	2"	PK	776.61	777.0	/		772.5	5. 36	14.5'	10			Y		
	SMW2					4/20/99	2"	pVC	776.01	776.37	/		771.87	6.22	14.5'	10'			Y		
	SMW3					4/20/99	2"	PK	775.61	776.03	/		771,53	5.98	14.5'	16			4		
	SMWY					9/7/00	2"	PVC	776.49	776.9	/		772.4	9,20	15	10'			Y		! !
	SMW5	·				9/7/00	2"	PVC	774.82	775.2	/	·	770.7	8,12	15'	16'	·		4		
	SMW6					9/7/00	2"	PVO	775.03	775,5	/		771.0	6.17	15'	10'			γ		
	5P1	·				10/25/00	2"	PVC	776.09	776.3	/		7 <i>5</i> 2.3	22.83	29	5'			4		· · · · · · · · · · · · · · · · · · ·
	SP2					10/25/00	2"	PK	776.63	776. 9	/		752.9	22.49	29	5'			7		
	SP3					10/25/00	2"	PVC	776.58	776.9	7		752.9	23.01	29	5'			4		
													-								
	Coordinat		— I10-1		Grid	Origin Location	n: (C	Check i	f estimated:)		R	ernarks:								
	e Plane Con Northe	m	Local Gri System	-1	Lat.	•	•	(1	Long.	• 1		"or		· · · · · · · · · · · · · · · · · · ·	*****						
_	☐ Central☐ Southe					<u> </u>			•	A F 6"	C/N1 7	. .		* * * * * * * * * * * * * * * * * * * *	•			i			
•				18	st. P	lane	f	t. N.		fi. e. s/(U/M Z	OHC -									

Well Specific Field Sheet (WSFS) - Monitoring Wells Fill out one column of this form for each monitoring well which is sampled on each sampling date.

Facility Name: Vacant Lot - 3225 College Ave., Appleton, WI

Date: November 2, 2000

License or Permit #:

Weather Conditions: Sunny, 60

Person(s) Sampling: Dave Fries

Sampling Equipment (for measuring water level, sampling, and filtering.(Include model if appropriate.): ES-60 purge pump, Solonist water level meter, YSI 600 XL multi-probe with 610-D field display unit, Enviroline disposable bailers

Well Name	MW2	MW4	SMW1	SMW2	SMW3	SMW4	SMW5	SMW6
DNR ID No.								-
Pipe top elevation (MSL) Reference elev. if different	776.04	776.52	776.61	776.01	775.61	776.49	774.82	775.03
Measured depth to water (ft)								
Correction	-	-	-	-	-	-	<u> </u>	
Total depth to water (ft)		<u> </u>	-	-	-	-	<u> </u>	-
Water elevation (MSL)	776.04	776.52	776.61	776.01	775.61	776.49	774.82	775.03
Depth to bottom of well (ft)	13.4	13.5	14.35	14.65	14.65	14.95	14.85	14.95
Volume of water in well (gal)	2.18	2.20	2.34	2.39	2.39	2.44	2.42	2.44
Volume to be purged (4x vol. in well)	8.74	8.80	9.36	9.55	9.55	9.75	9.68	9.75
Time purging begun					L	<u> </u>	<u> </u>	
Time purging completed								
Purged dry? (Y/N)	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Time sample withdrawn								
Field temperature (°C)	·							
Field conductivity (uncorrected)								
Field conductivity (at 25°C)								
Time conductivity measured								
Field pH (std. units)								
Time pH measured								
Color (Y/N)								
Odor (Y/N)								
Turbidity (Y/N)								
Sample field filtered? (Y/N)								
Time filtered								
Dissolved Oxygen								
Dissolved Oxygen %								
Well cap and lock replaced? (Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Well Specific Field Sheet (WSFS) - Monitoring Wells

Fill out one column of this form for each monitoring well which is sampled on each sampling date.

Facility Name: Vacant Lot - 3225 College Ave., Appleton, WI

Date: November 2, 2000

License or Permit #:

Weather Conditions: Sunny 60

Person(s) Sampling: Dave Fries

Sampling Equipment (for measuring water level, sampling, and filtering.(Include model if appropriate.) pump, Solonist water level meter, YSI 600 XL multi-probe with 610-D field display unit, Enviroline disposa

Well Name	SP1	SP2	SP3
DNR ID No.			
Pipe top elevation (MSL) Reference elev. if different	776.09	776.63	776.58
Measured depth to water (ft)	22.83	22.49	23.01
Correction	-	-	-
Total depth to water (ft)	-		-
Water elevation (MSL)	753.26	754.14	753.57
Depth to bottom of well (ft)	29.3	29.3	29
Volume of water in well (gal)	1.05	1.11	0.98
Volume to be purged (4x vol. in well)	4.22	4.44	3.91
Time purging begun	11:40	10:42	12:05
Time purging completed	11:50	10:55	12:15
Purged dry? (Y/N)	Yes	Yes	Yes
Time sample withdrawn	11:55	10:58	12:20
Field temperature (°C)			
Field conductivity (uncorrected)		-	
Field conductivity (at 25°C)			
Time conductivity measured			
Field pH (std. units)			
Time pH measured			
Color (Y/N)	No	No	No
Odor (Y/N)	No	No	No
Turbidity (Y/N)	No	No	No
Sample field filtered? (Y/N)	No	No	No
Time filtered			
Dissolved Oxygen			
Dissolved Oxygen %			
Well cap and lock replaced? (Y/N)	Yes	Yes	Yes

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APPENDIX 4 HANDBOOK OF FIELD PROCEDURES

HANDBOOK OF FIELD PROCEDURES

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Table 3 – Water Sample Preparation Guide	10

PERSONNEL QUALIFICATIONS

Kenneth E. Hawk - Completed 40-hour hazardous waste training.

Bachelors Degree in Geology from University of Wisconsin-Oshkosh. Masters Degree in Environmental Science from University of Wisconsin-

Green Bay.

Licensed Professional Geologist (no. 197), State of Wisconsin

Certified Site Assessor-01660.

Don Brittnacher - Completed 40-hour hazardous waste training.

Bachelors Degree in Geology from University of Notre Dame.

Masters Degree in Environmental Health Engineering from University of Notre

Dame.

Licensed Professional Geologist (no. 462), State of Wisconsin Licensed Professional Engineer (no. 30286), State of Wisconsin

Certified Site Assessor-01658.

David L. Fries - Completed 40-hour hazardous waste training.

Bachelors Degree in Geology from Lawrence University, Appleton, WI. Masters Degree in Environmental Science from University of Wisconsin-

Green Bay.

Licensed Professional Geologist (no. 192), State of Wisconsin

Certified Site Assessor-01662.

Certified Hazardous Materials Manager (no. 10226)

Bill Endter - Completed 40-hour hazardous waste training.

Associate Degree in Natural Resource Technology from Fox Valley Technical

College.

Deanna Drum - Completed 40-hour hazardous waste training.

Associate Degree in Mechanical Design, Fox Valley Technical College.

SOIL BORING INSTALLATION PROCEDURES

A number of different drilling and geoprobing firms are used for environmental investigations. Borings intended to be converted to monitoring wells are advanced using 7 5/8" O.D. x 4 1/2" I.D. hollow stem augers or 6 1/4" O.D. solid stem augers powered by a truck-mounted drill rig. If bedrock drilling is required, borings are advanced using either air or mud-rotary drilling techniques. Soil borings not intended for monitoring wells are typically advanced using 4" O.D. solid stem augers. The geoprobe typically advances a 2" diameter hole. All soil borings that are not converted to permanent or temporary groundwater monitoring wells are properly abandoned per NR 141.

Samples are typically obtained from each boring at 2.5' intervals by split-spoon sampling according to ASTM D-1586. A portion of each sample is screened with a photoionization detector (PID). At each sampling interval, a representative portion of the soil is also collected for possible laboratory analysis. Soil samples are chosen from each boring for laboratory analysis based on headspace screening data, and visual and olfactory observations. In general, the sample from each boring that exhibits the highest PID reading is chosen for analysis. See the Soil Sampling Procedures below, for further information pertaining to field headspace analysis and sample collection procedures.

SOIL SAMPLING PROCEDURES

All soil sampling is performed in accordance with DNR PUBL-SW-127, <u>Soil Sampling Requirements</u> for <u>LUST Site Investigations and Excavations</u> and DILHR ch. 10, <u>Flammable and Combustible</u> <u>Liquids</u>. The soil samples are collected and analyzed in accordance with DNR PUBL-SW-130 92REV, <u>LUST Analytical Guidance</u>, July, 1993. Our standard instruments and sample collection procedures are as follows:

- 1. Soil samples are collected from a split-spoon sampler during environmental drilling.
- 2. Sample collector wears new latex exam gloves when collecting samples to decrease the risk of personal exposure and cross contamination.
- 3. A portion of the sample is collected in a sampling syringe and placed in new glass 40 ml vials, or new glass 2 oz jars, and immediately placed on ice, and later delivered to the laboratory for analysis. This procedure will be discussed in more detail later in this report. (See Table 1.)
- 4. The remaining portion of the sample is placed in a clean 4 oz. jar (approx. 1/2 filled), and sealed with aluminum foil and a teflon-lined lid. The headspace sample is then agitated for a minimum of 30 seconds and then allowed to equilibrate. Minimum equilibration time will correspond to the following specifications:

Minimum Sample Headspace Equilibration Time

Ambient Outside Air	Minimum Amount of Time
Temperature at the	Sample Must Equilibrate
Time of Sample	at 70° F or Greater
Collection	Temperature
< 40 F	40 min.
41 – 55 F	20 min.
56 – 69 F	10 min.
> 70	5 min.

INSTRUMENT SPECIFICATIONS

When the sample has completed equilibration, it is promptly field analyzed with a portable photoionization detector (PID). OMNNI uses either a Photovac Inc. Microtip HL-200 or ML-1000 or a Thermo Environmental Instruments Model 580A OVM, both equipped with an 11.2 ev lamp. A background reading is first taken. The PID probe is then inserted into the jar through a single hole in the aluminum foil. The instrument reading is measured at one-half the distance between the foil seal and the sample surface. The measured reading is then recorded.

Isobutylene at a concentration of 100 ppm is used for field calibration gas. The PID meter is field calibrated at the following times:

- At the beginning of each day
- After any significant change in temperature or humidity
- Every three hours
- After any repairs to the instrument are performed
- 5. All samples are returned to the laboratory as soon as possible, usually the day the sample was collected. All samples are returned to the lab with a chain-of-custody form, form #4400-151. Time of sample collection and sample PID reading are listed. Care is taken to ensure that the chain-of-custody form is properly and fully completed before submitting to the laboratory.
- 6. The samples are sent to a laboratory certified by the Wisconsin Department of Natural Resources.
- 7. Table 2 on page 9 outlines the required DNR laboratory analysis for specific UST contaminants.

Soil analyses, other than those in Table 2, will be conducted in accordance with methods approved by the DNR.

MONITORING WELL INSTALLATION AND DEVELOPMENT PROCEDURES

The permanent monitoring wells are typically constructed of two-inch, schedule 40, flush-thread PVC casings and well screens. Temporary wells are one-inch diameter, schedule 40 casings and screens. Prior to use, well parts are individually wrapped in plastic.

Permanent wells are installed and developed according to NR 141, DNR Groundwater Monitoring Well Requirements. The monitoring wells are installed with five to fifteen-foot screens which are placed in the borings to intersect the water table. Piezometers are installed with five-foot screens sealed beneath the water table. Filter pack and annular space seal material are installed by gravity as the augers are withdrawn from the hole. Wells are cut to the required height using a PVC pipe cutter.

An as-constructed well and boring survey is performed by OMNNI once field work is complete. Elevations are either based on a local datum of 100 feet, or a U.S.G.S. elevation, assigned to a mark on a reference point located at the site. Ground elevation is surveyed to the nearest 0.1 foot, and the top of the well casing to the nearest 0.01 foot.

A horizontal grid system is established at the site with the origin of the grid set on the reference point. Wells and borings are located with respect to this grid system.

To properly develop each permanent monitoring well, water is removed until a consistent water quality is obtained. This is done by removing 10 times the water volume in the well and filter pack, removing water until it is free of sediment, or removing the water until the well is purged dry. Water is removed from the wells by bailing the water with as little agitation as possible. If the water level is unaffected by bailing and large amounts of water are to be removed, the well is developed by using the surge and purge method with a Red Lion centrifugal pump. No water is added to the well during development. Temporary wells are typically developed by allowing the peristaltic pump to run until the water is as clear as possible.

The development water is barrelled, pending the results of analytical testing. If the well is suspected to be clean and small volumes of water are to be removed, the water may be spread on pavement to volatilize any possible contaminants.

GROUNDWATER SAMPLING PROCEDURES AND V.O.C. SAMPLING NOTES

- A. Devices used to measure water elevation, purge wells and retrieve samples:
 - 1. Groundwater levels are measured with a fiberglass reel tape with a weighted stainless steel "sounder" at the end.
 - 2. In wells that have free product on top of the water surface, depth to water and depth to product are measured with a fiberglass reel tape with an interface probe at the end.
 - 3. Wells are purged and samples are collected by one of the following methods:
 - a) Wells are purged with a Voss disposable bailer.
 - b) Alternate purging and sampling equipment consists of a peristaltic groundwater sampling pump.
- B. Procedures for calculating purge volumes, purging wells and sampling:

- 1. Wells are normally sampled starting from the upgradient area and progressing toward the downgradient area of the site. When the degree of contamination is known, least contaminated wells are sampled first, the more contaminated wells sampled last.
- 2. All the wells are opened before the depth to groundwater is determined.
- 3. Wells are purged by removing four water volumes within a casing or all the water until the well runs dry.
- 4. Once all the wells have been purged, the samples are drawn using equipment mentioned above. (See Table 3 Water Sample Preparation Guide)
- 5. Sample, odor, turbidity, temperature, conductivity and pH are determined on the unfiltered portions of the sample and recorded on the well specific field sheet.
- 6. When the sample requires filtering, the sample is filtered with an in-line pump (as soon after collection as possible).
- 7. Ouality Assurance/Quality Control Samples
 - a) Trip and field blanks will consist of three new 40 ml vials filled with deionized water. These are sent to the laboratory for (P)VOC analysis. If no field contamination has occurred, these samples will have no detectable (P)VOCs.
 - b) One trip blank should be analyzed for every 10 samples collected. At least one trip blank is taken per site visit. Trip blanks are poured, labeled, and sealed, then taken out in the field. Trip blanks are kept with all samples collected until reaching the field.
 - c) Field blanks are used if the bailers are not dedicated to a specific well. If there is a possibility for field cross-contamination of samples, field blanks may also be taken at the sample collector's discretion.
 - d) One temperature blank is collected per batch of samples.
 - e) One duplicate sample is collected with every 10 samples.
- 8. Samples are refrigerated, then transported to a state certified laboratory for testing as soon as possible.
- 9. A chain-of-custody will be filled out listing all samples collected, requested laboratory analysis, date and time of collection, and the name of the sample collector. This document will remain with the samples at all times and bear the names of all persons handling the samples until the samples are received by the laboratory.

C. Procedures for cleaning equipment:

1. In the field, sampling equipment is rinsed with a 10% methanol solution and then flushed three times with deionized water between each well sampled.

- 2. Equipment that is still contaminated after field cleaning will be rinsed with tap water, washed off with detergent, rinsed with a 10% methanol solution, and flushed three times with deionized water.
- D. Transporting samples to lab:
 - 1. Filtered, preserved, labelled, and sealed samples are iced and transported to the lab for analysis as soon as possible.
 - 2. The laboratory will be notified by the sample collector when courier service is required.
- E. The above procedures constitute normal groundwater sampling procedures for permanent groundwater monitoring wells. Modifications to each of the outlined items may be applicable for site specific conditions or special volatile organic sampling considerations. Methods used are consistent with WDNR "Groundwater Sampling Procedures Guidelines" Publ. WR-153, February, 1987.

DECONTAMINATION PROCEDURES

Decontamination is the process of removing and/or neutralizing contaminants that may have accumulated on PPE (personnel protective equipment) and equipment. Proper decontamination is a critical element in the control of hazards which helps ensure the health and safety of workers. Proper decontamination also contains the contamination to the site, thus preventing further environmental problems.

Drilling

The following decontamination procedures should be used when completing borings, installing monitoring wells, and/or installing remediation systems.

- A. Between samples, the split spoon will be cleaned in a multiple rinse, surfactant solution (soap and water or Alconox solution.)
- B. The sample will be collected while wearing new latex exam gloves.
- C. The surface upon which the sample is collected will be cleaned between samples.
- D. The latex exam gloves will be changed between samples.
- E. Soil which has accumulated around the boring will either be stockpiled or barreled. If the soil is stockpiled, it will be placed on and covered with visqueen. The stockpiled or barreled soil will later be disposed of in compliance with the DNR regulations.
- F. Upon completion of the boring, the augers will be decontaminated before they are used again. The following procedures will be followed when decontaminating drilling equipment:
 - 1. A decontamination basin lined with plastic (visqueen) is set up near the work area.

- 2. All contaminated equipment is placed in the decontamination basin.
- 3. A pressurized steam cleaner is used to clean all contaminated equipment.
- 4. Following steam cleaning, the auger is removed from the decontamination basin.
- 5. Upon completion of the job, the accumulated water in the decontamination basin is pumped out and placed in a barrel. Wash water used for cleaning the split spoons is also added to the barrel. The barrel will be disposed of in compliance with all regulatory agencies.
- 6. The visqueen used in the decontamination basin is disposed of in compliance with all regulatory agencies.

Table 1
SOIL SAMPLE PREPARATION GUIDE*

TEST	CONTAINER SIZE**	SAMPLE SIZE	PRESERVATIVE	HOLDING TIME
GRO Gasoline Range Organics	2 oz. wide mouth jar or 40 ml vial (2 per sample)	25 g	25 ml Methanol (purge and trap grade)	4 days
DRO Diesel Range Organics	2 oz. wide mouth jar or 40 ml vial (2 per sample)	25 g	None	4 days
Total Lead/ Total Cadmium	4 oz. wide mouth jar (2 per sample)	4 oz.	None	6 months
VOC / PVOC Volatile Organic Compounds	2 oz. wide mouth jar or 40 ml vial (2 per sample)	25 g	25 ml Methanol (purge and trap grade)	4 days
PCB Polychlorinated Biphenyls	PCB 4 oz. wide mouth Polychlorinated jar		None	14 days
PAH Polynuclear Aromatic Hydrocarbons	4 oz. wide mouth jar (2 per sample)	4 oz.	None	14 days

^{*} All samples will be sealed, labeled, and placed on ice immediately after collection.

^{**} To ensure a proper seal between the sample container and the cap, no soil shall remain on the jar or cap threads. When samples are collected with the syringe, a 40 ml vial is used and the sample is preserved in the lab.

Table 2
SOIL SAMPLE ANALYSIS GUIDE FOR PETROLEUM CONTAMINATION

PETROLEUM SUBSTANCE	CLOSURE ASSESSMENT	SOLID WASTE PRO./LANDFILLS	SITE INVESTIGATIONS
Gasoline Aviation Fuel	GRO	Free Liquids GRO Benzene Haz. Waste Det.	GRO PVOC/VOC Pb
Diesel Jet Fuel No.'s 1, 2, 4 Fuel Oil	DRO	Free Liquids GRO Benzene Haz. Waste Det.	DRO PVOC PAH
Crude Oil Lubricat. Oil No. 6 Fuel Oil	DRO	Free Liquids DRO Haz. Waste Det.	DRO PAH
Unknown Petroleum	GRO and DRO	Free Liquids GRO and DRO Pb, Cd, CH S Haz Waste Det.	GRO and DRO VOC/PVOC PAH Pb, Cd
Waste Oil	DRO	Free Liquids DRO VOC Pb, Cd, CH S Haz. Waste Det.	DRO VOC/PVOC PAH PCB Pb, Cd

Table 3 **WATER SAMPLE PREPARATION GUIDE ***

TEST	SAMPLE SIZE / CONTAINER	PRESERVATIVE	HOLDING TIME	
VOC / PVOC Volatile Organic Compounds	3 - 40 ml vials filled with no headspace	0.5 ml of 1:1 HC1	14 days	
DRO Diesel Range Organics	1 - 1 liter amber glass bottles	5 ml of 1:1 HC1	7 days	
GRO Gasoline Range Organics	3 - 40 ml vials filled with no headspace	0.5 ml of 1:1 HC1	14 days	
PAH Polynuclear Aromatic Hydrocarbons	1 - 1 liter amber glass bottles	None	7 days	
PCB Polychlorinated Biphenyls	PCB Polychlorinated 1 - 1 liter		7 days	
LEAD / CADMIUM metals **	1 - 250 ml plastic bottle	2 ml of HNO ₃ or to a pH of <2	6 months	

All samples will be sealed, labeled, and placed on ice immediately after collection. When testing for dissolved metals, the sample will be field filtered before preservation.

APPENDIX 5 LABORATORY ANALYSIS RESULTS AND CHAIN OF CUSTODY DOCUMENTATION

RECEIVED NOV 1 6 2000

OMNNI AUSOCIATES

DAVE FRIES OMNNI ASSOCIATES INC ONE SYSTEMS DRIVE APPLETON WI 54914-1654

Project #
Project Name

N1556A99

MALCHOW PROPERTY

Invoice # E31313

Report Date 10-Nov-00

	Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Cod
Lab Code	5031313A						Sample Type	Water		
Sample ID	TRIP	72. 7					Sample Date	11/2/00)	
Organic			·							
VOC's										
Benzen	e	< 0.39	ug/l	0.39	1.3	1	11/3/00	8021A	CAH	1
Bromob	Bromobenzene		ug/l	0.39	1.3	1	11/3/00	8021A	CAH	1
Bromod	lichloromethane	< 0.38	ug/l	0.38	1.3	1	11/3/00	8021A	CAH	1
tert-But	ylbenzene	< 0.44	ug/l	0.44	1.5	1	11/3/00	8021A	CAH	1
sec-But	ylbenzene	< 0.48	ug/l	0.48	1.6	1	11/3/00	8021A	CAH	1
n-Butyl	benzene	< 0.43	ug/l	0.43	1.4	1	11/3/00	8021A	CAH	1
Carbon	Tetrachloride	< 0.55	ug/l	0.55	1.8	1	11/3/00	8021A	CAH	1
Chlorob	enzene	< 0.4	ug/l	0.4	1.3	1	11/3/00	8021A	CAH	1
Chloroe	thane	< 0.15	ug/l	0.15	0.48	1	11/3/00	8021A	CAH	1
Chlorof	orm	< 0.38	ug/l	0.38	1.3	1	11/3/00	8021A	САН	1
Chloron	nethane	< 1.1	ug/I	1.1	3.5	1	11/3/00	8021A	CAH	4
2-Chlore	otoluene	< 0.47	ug/l	0.47	1.5	1	11/3/00	8021A	CAH	1
4-Chlore	otoluene	< 0.44	ug/l	0.44	1.5	1	11/3/00	8021A	CAH	1
1,2-Dibi	romo-3-chloropropane	< 0.67	ug/l	0.67	2.2	1	11/3/00	8021A	CAH	1
	ochloromethane	< 0.5	ug/l	0.5	1.7	1	11/3/00	8021A	CAH	1
1,4-Dich	nlorobenzene	< 0.42	ug/i	0.42	1.4	1	11/3/00	8021A	CAH	1
•	ılorobenzene	< 0.45	ug/l	0.45	1.5	1	11/3/00	8021A	CAH	1
•	lorobenzene	< 0.44	ug/l	0.44	1.5	1	11/3/00	8021A	CAH	1
Dichloro	odifluoromethane	< 0.37	ug/l	0.37	1.2	1	11/3/00	8021A	CAH	234
1,2-Dich	ıloroethane	< 0.35	ug/l	0.35	1.2	1	11/3/00	8021A	CAH	1
1,1-Dict	nloroethane	< 0.35	ug/l	0.35	1.2	i	11/3/00	8021A	CAH	1
•	nloroethene	< 0.66	ug/l	0.66	2.2	1	11/3/00	8021A	CAH	1
•	Dichloroethene	< 0.37	ug/l	0.37	1.2	1	11/3/00	8021A	CAH	1
	2-Dichloroethene	< 0.43	ug/l	0.43	1.4	1	11/3/00	8021A	CAH	1
	loropropane	< 0.4	ug/l	0.4	1.3	1	11/3/00	8021A	CAH	1
	loropropane	< 0.59	ug/l	0.59	2	1	11/3/00	8021A	CAH	1
	opyl ether	< 0.37	ug/l	0.37	1.2	1	11/3/00	8021A	CAH	4
•	2-Dibromoethane)	< 0.65	ug/l	0.65	2.2	1	11/3/00	8021A	CAH	1
Ethylber	,	< 0.4	ug/l	0.4	1.3	1	11/3/00	8021A	CAH	1
Hexachl	orobutadiene	< 0.62	ug/l	0.62	2.1	1	11/3/00	8021A	CAH	1
	lbenzene	< 0.38	ug/l	0.38	1.3	1	11/3/00	8021A	CAH	1
	pyltoluene	< 0.44	ug/l	0.44	1.5	1	11/3/00	8021A	CAH	1
	ne chloride	< 0.57	ug/l	0.57	1.9	1	11/3/00	8021A	CAH	1
MTBE		< 0.47	ug/l	0.47	1.6	1	11/3/00	8021A	CAH	1

DAVE FRIES OMNNI ASSOCIATES INC ONE SYSTEMS DRIVE APPLETON WI 54914-1654

Project #

N1556A99

Project Name MALCHOW PROPERTY

Invoice # E31313

Report Date 10-Nov-00

Lab Code S031313A Sample ID TRIP Sample Date T1/2/00 Sample Date		Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
n-Propylbenzene	11									0	
1,1,2,2-Tetrachloroethane	Naphth	alene	< 0.53	ug/l	0.53	1.8	1	11/3/00	8021A	CAH	. 1
1,3-DCP, Tetrachloroethene	n-Propy	ylbenzene	< 0.42	ug/l	0.42	1.4	1	11/3/00	8021A	CAH	1
Tetrachloroethene	1,1,2,2-	-Tetrachloroethane	< 0.68	ug/l	0.68	2.3	1	11/3/00	8021A	CAH	1
Toluene	1,3-DC	P, Tetrachloroethene	< 0.93	ug/l	0.93	3.1	1	11/3/00	8021A	CAH	. 1
1,2,4-Trichlorobenzene	Tetrach	loroethene	< 0.34	ug/l	0.34	1.1	1	11/3/00	8021A	CAH	1
1,2,3-Trichlorobenzene	Toluene	e	< 0.37							CAH	1
1,2,3-Trichlorobenzene	1,2,4-T	richlorobenzene	< 0.6	ug/i	0.6	2	1	11/3/00	8021A	CAH	1
1,1,2-Trichloroethane	1,2,3-T	richlorobenzene	< 0.49		0.49	1.6	1	11/3/00	8021A	CAH	1
Trichloroethene	1,1,1-T	richloroethane	< 0.54	ug/l	0.54	1.8	1	11/3/00	8021A	CAH	1
Trichloroethene	1,1,2-T	richloroethane	< 0.46	ug/l	0.46	1.5	1	11/3/00	8021A	CAH	1
1,2,4-Trimethylbenzene	Trichlo	roethene	< 0.46		0.46	1.5	1	11/3/00	8021A	CAH	1
1,3,5-Trimethylbenzene	Trichlo	rofluoromethane	< 0.62	ug/l	0.62	2.1	1	11/3/00	8021A	CAH	1
Vinyl Chloride	1,2,4-T	rimethylbenzene	< 0.4	ug/l	0.4	1.3	1	11/3/00	8021A	CAH	1
Vinyl Chloride	1,3,5-T	rimethylbenzene	< 0.63	ug/l	0.63	2.1	1	11/3/00	8021A	CAH	1
M&p-Xylene		•	< 0.2	_	0.2	0.6	1	11/3/00	8021A	CAH	4
Carrel C	-		< 0.79		0.79	2.6	1	11/3/00	8021A	CAH	1
Sample ID SP 2 Sample Date 11/2/00	-		< 0.64	ug/l	0.64	2.1	1	11/3/00	8021A	CAH	1
Organic VOC's Benzene	Lab Code	5031313B						Sample Typ	e Water		
VOC's Benzene < 0.39 ug/l 0.39 1.3 1 11/7/00 8021A CAH I Bromobenzene < 0.39	Sample ID	SP 2						Sample Date	11/2/0	0	-
VOC's Benzene < 0.39 ug/l 0.39 1.3 1 11/7/00 8021A CAH I Bromobenzene < 0.39	Organic										
Benzene < 0.39 ug/l 0.39 1.3 1 11/7/00 8021A CAH 1 Bromobenzene < 0.39	_										
Bromobenzene <0.39 ug/l 0.39 1.3 l 11/7/00 8021A CAH 1 Bromodichloromethane <0.38 ug/l 0.38 1.3 l 11/7/00 8021A CAH 1 tert-Butylbenzene <0.44 ug/l 0.44 1.5 l 11/7/00 8021A CAH 1 sec-Butylbenzene <0.48 ug/l 0.48 1.6 l 11/7/00 8021A CAH 1 n-Butylbenzene <0.43 ug/l 0.43 1.4 l 11/7/00 8021A CAH 1 Carbon Tetrachloride <0.55 ug/l 0.55 1.8 l 11/7/00 8021A CAH 1 Chlorobenzene <0.4 ug/l 0.4 1.3 l 11/7/00 8021A CAH 1 Chlorothane <0.15 ug/l 0.4 1.3 l 11/7/00 8021A CAH 1 Chloroform <0.38 ug/l 0.38 1.3 l 11/7/00 8021A CAH 1 Chlorothane <1.1 ug/l 0.15 0.48 l 11/7/00 8021A CAH 1 Chlorotothane <1.1 ug/l 0.38 1.3 l 11/7/00 8021A CAH 1 Chlorototoluene <0.47 ug/l 0.47 1.5 l 11/7/00 8021A CAH 1 4-Chlorotoluene <0.44 ug/l 0.47 1.5 l 11/7/00 8021A CAH 1		e	< 0.39	ug/l	0.39	1.3	1	11/7/00	8021A	CAH	1
Bromodichloromethane < 0.38 ug/l 0.38 1.3 1 11/7/00 8021A CAH 1 tert-Butylbenzene < 0.44				•		1.3	1	11/7/00	8021A	CAH	1
tert-Butylbenzene < 0.44 ug/l 0.44 1.5 l 11/7/00 8021A CAH l sec-Butylbenzene < 0.48 ug/l 0.48 1.6 l 11/7/00 8021A CAH l n-Butylbenzene < 0.43 ug/l 0.43 1.4 l 11/7/00 8021A CAH l Carbon Tetrachloride < 0.55 ug/l 0.55 1.8 l 11/7/00 8021A CAH l CAH l Chlorobenzene < 0.4 ug/l 0.4 1.3 l 11/7/00 8021A CAH l CAH l Chloroethane < 0.15 ug/l 0.15 0.48 l 11/7/00 8021A CAH l CAH l Chloroform < 0.38 ug/l 0.38 1.3 l 11/7/00 8021A CAH l CAH l Chloromethane < 1.1 ug/l 1.1 3.5 l 11/7/00 8021A CAH l CAH l Chlorotoluene < 0.47 ug/l 0.47 1.5 l 11/7/00 8021A CAH l 4-Chlorotoluene < 0.44 ug/l 0.47 1.5 l 11/7/00 8021A CAH l 4-Chlorotoluene < 0.44 ug/l 0.47 1.5 l 11/7/00 8021A CAH l				•			1	11/7/00	8021A	CAH	. 1
sec-Butylbenzene < 0.48 ug/l 0.48 1.6 1 11/7/00 8021A CAH 1 n-Butylbenzene < 0.43						1.5	1	11/7/00	8021A	CAH	1
n-Butylbenzene < 0.43 ug/l 0.43 1.4 1 11/7/00 8021A CAH 1 Carbon Tetrachloride < 0.55		•					1		8021A		1
Carbon Tetrachloride < 0.55 ug/l 0.55 1.8 1 11/7/00 8021A CAH 1 Chlorobenzene < 0.4		·=		_			I	11/7/00	8021A	CAH	1
Chlorobenzene < 0.4 ug/l 0.4 1.3 1 11/7/00 8021A CAH 1 Chlorotethane < 0.15	•			-		1.8	1	11/7/00	8021A	CAH	- 1
Chloroethane < 0.15 ug/l 0.15 0.48 1 11/7/00 8021A CAH 1 Chloroform < 0.38						1.3	1	11/7/00	8021A	CAH	1
Chloroform < 0.38 ug/l 0.38 1.3 1 11/7/00 8021A CAH 1 Chloromethane < 1.1	Chloroe	ethane		_	0.15	0.48	1	11/7/00	8021A	CAH	1
Chloromethane < 1.1 ug/l 1.1 3.5 1 11/7/00 8021A CAH 2 3 4 2-Chlorotoluene < 0.47				_						CAH	1
2-Chlorotoluene < 0.47 ug/l 0.47 l.5 l 11/7/00 8021A CAH l 4-Chlorotoluene < 0.44 ug/l 0.44 l.5 l 11/7/00 8021A CAH l				_						CAH	2 3 4
4-Chlorotoluene < 0.44 ug/l 0.44 1.5 l 11/7/00 8021A CAH l				=						CAH	1
· · · · · · · · · · · · · · · · · · ·				_							1
	1,2-Dib	romo-3-chloropropane				2.2	1		8021A	CAH	· 1

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DAVE FRIES OMNNI ASSOCIATES INC ONE SYSTEMS DRIVE APPLETON WI 54914-1654

Project #
Project Name

N1556A99

MALCHOW PROPERTY

Invoice # E31313

Report Date 10-Nov-00

1,4-Dichlorobenzene		Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Dibromochloromethane	Lab Cod	e 5031313B			· · · · · ·			Sample Type	Water		
1.4-Dichlorobenzene	Sample I	D SP 2)	
1,4-Dichlorobenzene	Di	bromochloromethane	< 0.5	ug/l	0.5	1.7	1	11/7/00	8021A	САН	1
1,3-Dichlorobenzene	1,4	4-Dichlorobenzene	< 0.42	_				11/7/00			1
1,2-Dichlorobenzene	1,3	3-Dichlorobenzene	< 0.45	ug/l	0.45	1.5	1	11/7/00	8021A	CAH	1
1,2-Dichloroethane	1,2	2-Dichlorobenzene	< 0.44	=	0.44	1.5	1	11/7/00	8021A	CAH	1
1,1-Dichloroethane	Die	chlorodifluoromethane	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	САН	4
1,1-Dichloroethane	1,2	2-Dichloroethane	< 0.35	ug/l	0.35	1.2	1	11/7/00	8021A	САН	1
1,1-Dichloroethene < 0.66	1,1	-Dichloroethane	< 0.35		0.35	1.2	1	11/7/00	8021A	CAH	1
cis-1,2-Dichloroethene < 0.37 ug/l 0.37 1.2 1 11/7/00 8021A CAH trans-1,2-Dichloroethene < 0.43 ug/l 0.43 1.4 1 11/7/00 8021A CAH 2 1,2-Dichloropropane < 0.59 ug/l 0.59 2 1 11/7/00 8021A CAH 1 Di-isopropyl ether < 0.59 ug/l 0.37 1.2 1 11/7/00 8021A CAH 4 EDB (1,2-Dibromoethane) < 0.65 ug/l 0.65 2.2 1 11/7/00 8021A CAH 4 Ethylbenzene < 0.4 ug/l 0.65 2.2 1 11/7/00 8021A CAH 1 Ethylbenzene < 0.62 ug/l 0.62 2.1 1 11/7/00 8021A CAH 1 Hexachlorobutadiene < 0.62 ug/l 0.38 1.3 1 11/7/00 8021A CAH 1 P-Isopropyltoluene	1,1	-Dichloroethene	< 0.66		0.66	2.2	1	11/7/00	8021A	CAH	1
trans-1,2-Dichloroethene	cis	-1,2-Dichloroethene	< 0.37		0.37	1.2	1	11/7/00	8021A		1
1,2-Dichloropropane	tra	ns-1,2-Dichloroethene	< 0.43		0.43	1.4	1	11/7/00	8021A	CAH	2
2,2-Dichloropropane < 0.59	1,2	2-Dichloropropane	< 0.4		0.4	1.3	1	11/7/00	8021A		1
Di-isopropyl ether	2,2	2-Dichloropropane	< 0.59		0.59	2	1	11/7/00		CAH	1
EDB (1,2-Dibromoethane)	Di-	-isopropyl ether	< 0.37	_	0.37	1.2	1				4
Hexachlorobutadiene	ED	B (1,2-Dibromoethane)	< 0.65		0.65	2.2	1	11/7/00		CAH	1
Isopropylbenzene	Eth	nylbenzene	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
Isopropylbenzene	He	xachlorobutadiene	< 0.62	ug/l	0.62	2.1	1	11/7/00	8021A	CAH	1
Methylene chloride < 0.57 ug/l 0.57 1.9 1 11/7/00 8021A CAH 1 MTBE < 0.47	Iso	propylbenzene	< 0.38		0.38	1.3	1	11/7/00	8021A	CAH	1
MTBE < 0.47 ug/l 0.47 1.6 1 11/7/00 8021A CAH 1 Naphthalene < 0.53	p-Is	sopropyltoluene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
Naphthalene	Me	thylene chloride	< 0:57	ug/l	0.57	1.9	1	11/7/00	8021A	CAH	1
Naphthalene < 0.53 ug/l 0.53 1.8 1 11/7/00 8021A CAH 1 n-Propylbenzene < 0.42	МТ	TBE	< 0.47		0.47	1.6	1	11/7/00	8021A	CAH	I
n-Propylbenzene < 0.42 ug/l 0.42 1.4 1 11/7/00 8021A CAH 1 1,1,2,2-Tetrachloroethane < 0.68	Naj	phthalene	< 0.53		0.53	1.8	1	11/7/00	8021A	CAH	1
1,3-DCP, Tetrachloroethene < 0.93	n-P	ropylbenzene	< 0.42		0.42	1.4	1	11/7/00	8021A	CAH	1
Tetrachloroethene 0.67 "J" ug/l 0.34 1.1 1 11/7/00 8021A CAH 1 Toluene <0.37 ug/l 0.37 1.2 1 11/7/00 8021A CAH 1 1,2,4-Trichlorobenzene <0.6 ug/l 0.6 2 1 11/7/00 8021A CAH 4 1,2,3-Trichlorobenzene <0.49 ug/l 0.49 1.6 1 11/7/00 8021A CAH 1 1,1,1-Trichloroethane <0.54 ug/l 0.54 1.8 1 11/7/00 8021A CAH 1 1,1,2-Trichloroethane <0.46 ug/l 0.46 1.5 1 11/7/00 8021A CAH 1 Trichloroethene <0.46 ug/l 0.46 1.5 1 11/7/00 8021A CAH 1 Trichlorofluoromethane <0.62 ug/l 0.46 1.5 1 11/7/00 8021A CAH 1 1,2,4-Trimethylbenzene <0.4 ug/l 0.62 2.1 1 11/7/00 8021A CAH 1 1,3,5-Trimethylbenzene <0.63 ug/l 0.63 2.1 1 11/7/00 8021A CAH 1 1,3,5-Trimethylbenzene <0.63 ug/l 0.63 2.1 1 11/7/00 8021A CAH 1 Vinyl Chloride <0.2 ug/l 0.2 0.6 1 11/7/00 8021A CAH 1 m&p-Xylene <0.79 ug/l 0.79 2.6 1 11/7/00 8021A CAH 1	1,1	,2,2-Tetrachloroethane	< 0.68	ug/l	0.68	2.3	1	11/7/00	8021A	CAH	1
Toluene	1,3	-DCP, Tetrachloroethene	< 0.93	ug/l	0.93	3.1	1	11/7/00	8021A	CAH	1
1,2,4-Trichlorobenzene < 0.6	Tet	rachloroethene	0.67 "J"	ug/l	0.34	1.1	1	11/7/00	8021A	CAH	1
1,2,3-Trichlorobenzene < 0.49	Tol	uene	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	1
1,1,1-Trichloroethane < 0.54	1,2,	,4-Trichlorobenzene	< 0.6	ug/l	0.6	2	1	11/7/00	8021A	CAH	4
1,1,1-Trichloroethane < 0.54	1,2,	,3-Trichlorobenzene	< 0.49	ug/l	0.49	1.6	1	11/7/00	8021A	CAH	1
Trichloroethene <0.46 ug/l 0.46 l.5 l 11/7/00 8021A CAH l Trichlorofluoromethane <0.62 ug/l 0.62 2.1 l 11/7/00 8021A CAH 4 l,2,4-Trimethylbenzene <0.4 ug/l 0.4 l.3 l 11/7/00 8021A CAH l l,3,5-Trimethylbenzene <0.63 ug/l 0.63 2.1 l 11/7/00 8021A CAH l Vinyl Chloride <0.2 ug/l 0.2 0.6 l 11/7/00 8021A CAH l m&p-Xylene <0.79 ug/l 0.79 2.6 l 11/7/00 8021A CAH l	1,1,	,1-Trichloroethane	< 0.54		0.54	1.8	1	11/7/00	8021A	CAH	1
Trichlorofluoromethane <0.62 ug/l 0.62 2.1 l 11/7/00 8021A CAH 4 1,2,4-Trimethylbenzene <0.4 ug/l 0.4 l.3 l 11/7/00 8021A CAH 1 1,3,5-Trimethylbenzene <0.63 ug/l 0.63 2.1 l 11/7/00 8021A CAH 1 Vinyl Chloride <0.2 ug/l 0.2 0.6 l 11/7/00 8021A CAH 1 m&p-Xylene <0.79 ug/l 0.79 2.6 l 11/7/00 8021A CAH I	1,1,	,2-Trichloroethane	< 0.46	ug/l	0.46	1.5	1	11/7/00	8021A	CAH	1
1,2,4-Trimethylbenzene < 0.4	Tric	chloroethene	< 0.46	ug/i	0.46	1.5	1	11/7/00	8021A	CAH	1
1,3,5-Trimethylbenzene < 0.63	Tric	chlorofluoromethane	< 0.62	ug/i	0.62	2.1	1	11/7/00	8021A	CAH	4
Vinyl Chloride <0.2 ug/l 0.2 0.6 l 11/7/00 8021A CAH 1 m&p-Xylene <0.79 ug/l 0.79 2.6 l 11/7/00 8021A CAH I	1,2,	4-Trimethylbenzene	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
m&p-Xylene <0.79 ug/l 0.79 2.6 l 11/7/00 8021A CAH I	1,3,	5-Trimethylbenzene	< 0.63	ug/l	0.63	2.1	1	11/7/00	8021A	CAH	1
	Vin	yl Chloride	< 0.2	ug/l	0.2	0.6	1	11/7/00	8021A	CAH	1
o-Xylene < 0.64 ug/l 0.64 2.1 1 11/7/00 8021A CAH 1	m&	p-Xylene	< 0.79	ug/l	0.79	2.6	1	11/7/00	8021A	CAH	1
	o-X	ylene	⋄ < 0.64	ug/l	0.64	2.1	1	11/7/00	8021A	CAH	1

1090 Kennedy Ave, Kimberly, WI 54136 * 920-735-8295 * FAX 920-739-1738 * 1-800-490-4902 WI DNR Lab Certification #445134030

DAVE FRIES OMNNI ASSOCIATES INC ONE SYSTEMS DRIVE APPLETON WI 54914-1654

Project #

N1556A99

Project Name MALCHOW PROPERTY

Invoice # E31313

Report Date 10-Nov-00

	Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code Sample ID	5031313C SP 1				***************************************		Sample Type Sample Date			
Organic										
VOC's										
Benze	ene	< 0.39	ug/l	0.39	1.3	1	11/7/00	8021A	CAH	1
Brom	obenzene	< 0.39	ug/l	0.39	1.3	1	11/7/00	8021A	CAH	1
Brom	odichloromethane	< 0.38	ug/l	0.38	1.3	1	11/7/00	8021A	CAH	1
tert-B	utylbenzene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
sec-B	utylbenzene	< 0.48	ug/l	0.48	1.6	1	11/7/00	8021A	CAH	1
n-But	ylbenzene	2.5	ug/l	0.43	1.4	1	11/7/00	8021A	CAH	1
Carbo	on Tetrachloride	< 0.55	ug/l	0.55	1.8	1	11/7/00	8021A	CAH	1
Chlor	obenzene	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
Chlor	oethane	< 0.15	ug/l	0.15	0.48	1	11/7/00	8021A	CAH	1
Chlor	oform	< 0.38	ug/l	0.38	1.3	1	11/7/00	8021A	CAH	1
Chlor	omethane	< 1.1	ug/i	1.1	3.5	1	11/7/00	8021A	CAH	2 3 4
2-Chl	orotoluene	< 0.47	ug/l	0.47	1.5	1	11/7/00	8021A	CAH	1
4-Chl	orotoluene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	i
1,2-D	ibromo-3-chloropropane	< 0.67	ug/l	0.67	2.2	1	11/7/00	8021A	CAH	1
Dibro	mochloromethane	< 0.5	ug/l	0.5	1.7	1	11/7/00	8021A	CAH	1
1,4-D	richlorobenzene	< 0.42	ug/l	0.42	1.4	1	11/7/00	8021A	CAH	1
1,3-D	ichlorobenzene	< 0.45	ug/l	0.45	1.5	1	11/7/00	8021A	CAH	1
·	ichlorobenzene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
Dichl	orodifluoromethane	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	4
1,2-D	ichloroethane	< 0.35	ug/l	0.35	1.2	1	11/7/00	8021A	CAH	1
1,1-D	ichloroethane	< 0.35	ug/l	0.35	1.2	1	11/7/00	8021A	CAH	1
1,1-D	ichloroethene	< 0.66	ug/l	0.66	2.2	1	11/7/00	8021A	CAH	1
cis-1,	2-Dichloroethene	1.3 (#44	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	1
trans-	1,2-Dichloroethene	< 0.43	ug/l	0.43	1.4	1	11/7/00	8021A	CAH	2
1,2-D	ichloropropane	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
2,2-D	ichloropropane	< 0.59	ug/l	0.59	2	1	11/7/00	8021A	CAH	1
	opropyl ether	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	4
	(1,2-Dibromoethane)	< 0.65	ug/l	0.65	2.2	1	11/7/00	8021A	CAH	1
	benzene	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
Hexad	chlorobutadiene	< 0.62	ug/l	0.62	2.1	1	11/7/00	8021A	CAH	1
	pylbenzene	< 0.38	ug/l	0.38	1.3	1	11/7/00	8021A	CAH	i
p-Isor	propyltoluene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
	ylene chloride	< 0.57	ug/l	0.57	1.9	1	11/7/00	8021A	CAH	1
MTB		< 0.47	ug/l	0.47	1.6	1	11/7/00	8021A	CAH	1

DAVE FRIES OMNNI ASSOCIATES INC ONE SYSTEMS DRIVE APPLETON WI 54914-1654

N1556A99

Project Name MALCHOW PROPERTY

Invoice # E31313

Report Date 10-Nov-00

	Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code Sample ID	5031313C SP 1		1.00				Sample Type Sample Date)	
Naphth	alene	< 0.53	ug/l	0.53	1.8	1	11/7/00	8021A	САН	1
n-Propy	ylbenzene	< 0.42	ug/l	0.42	1.4	1	11/7/00	8021A	CAH	1
1,1,2,2-	-Tetrachloroethane	< 0.68	ug/l	0.68	2.3	1	11/7/00	8021A	CAH	1
1,3-DC	P, Tetrachloroethene	< 0.93	ug/l	0.93	3.1	1	11/7/00	8021A	CAH	1
Tetrach	loroethene	< 0.34	ug/l	0.34	1.1	1	11/7/00	8021A	CAH	1
Toluene	e	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	. 1
1,2,4-Ti	richlorobenzene	< 0.6	ug/l	0.6	2	1	11/7/00	8021A	CAH	4
1,2,3-Ti	richlorobenzene	< 0.49	ug/l	0.49	1.6	1	11/7/00	8021A	CAH	1
1,1,1-T	richloroethane	< 0.54	ug/l	0.54	1.8	1	11/7/00	8021A	CAH	1
1,1,2-T	richloroethane	< 0.46	ug/l	0.46	1.5	1	11/7/00	8021A	CAH	1
Trichlo	roethene	< 0.46	ug/l	0.46	1.5	1	11/7/00	8021A	CAH	1
Trichlo	rofluoromethane	< 0.62	ug/l	0.62	2.1	1	11/7/00	8021A	CAH	4
1,2,4-Ti	rimethylbenzene	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
1,3,5-T i	rimethylbenzene	2.9	ug/l	0.63	2.1	1	11/7/00	8021A	CAH	1
Vinyl C	Chloride	< 0.2	ug/l	0.2	0.6	1	11/7/00	8021A	CAH	1
m&p-X	ylene	< 0.79	ug/l	0.79	2.6	1	11/7/00	8021A	CAH	1
o-Xyler	ne	0.82 "J"	ug/l	0.64	2.1	1	11/7/00	8021A	САН	1
Lab Code Sample ID	5031313D SP 3						Sample Type Sample Date)	
	51 5						Sumple Dute	11/2/00		
Organic VOC's										
Benzen	e	< 0.39	ug/l	0.39	1.3	1	11/7/00	8021A	CAH	1
Bromob		< 0.39	ug/l	0.39	1.3	1	11/7/00	8021A	САН	1
	dichloromethane	< 0.38	ug/l	0.38	1.3	1	11/7/00	8021A	CAH	1
	tylbenzene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
	ylbenzene	< 0.48	ug/l	0.48	1.6	1	11/7/00	8021A	CAH	1
,	benzene	< 0.43	ug/1	0.43	1.4	1	11/7/00	8021A	CAH	1
· ·	Tetrachloride	< 0.55	ug/l	0.55	1.8	1	11/7/00	8021A	CAH	1
Chlorol		< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
Chloroe		< 0.15	ug/l	0.15	0.48	1	11/7/00	8021A	CAH	1
Chlorof		< 0.38	ug/l	0.38	1.3	1	11/7/00	8021A	CAH	1
Chloror		< 1.1	ug/l	1.1	3.5	1	11/7/00	8021A	CAH	2 3 4
	otoluene	< 0.47	ug/l	0.47	1.5	1	11/7/00	8021A	CAH	1
	otoluene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
1,2-Dib	romo-3-chloropropane	< 0.67	ug/l	0.67	2.2	1	11/7/00	8021A	CAH	1

DAVE FRIES OMNNI ASSOCIATES INC ONE SYSTEMS DRIVE APPLETON WI 54914-1654

Project #

N1556A99

Project Name MALCHOW PROPERTY

Invoice # E31313

Report Date 10-Nov-00

	Analyte	Result	Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code
Lab Code Sample ID	5031313D SP 3						Sample Type Sample Date			
Dibror	nochloromethane	< 0.5	ug/l	0.5	1.7	1	11/7/00	8021A	САН	1
	chlorobenzene	< 0.42	ug/l	0.42	1.4	1	11/7/00	8021A	CAH	1
	chlorobenzene	< 0.45	ug/l	0.45	1.5	1	11/7/00	8021A	CAH	1
•	chlorobenzene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
	orodifluoromethane	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	4
	chloroethane	< 0.35	ug/i	0.35	1.2	1	11/7/00	8021A	CAH	1
•	chloroethane	< 0.35	ug/l	0.35	1.2	1	11/7/00	8021A	CAH	1
•	chloroethene	< 0.66	ug/l	0.66	2.2	1	11/7/00	8021A	CAH	1
•	2-Dichloroethene	50 PA 5	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	1
•	,2-Dichloroethene	0.87 "J"	ug/l	0.43	1.4	1	11/7/00	8021A	CAH	2
	chloropropane	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
•	chloropropane	< 0.59	ug/l	0.59	2	1	11/7/00	8021A	CAH	1
	propyl ether	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	4
	1,2-Dibromoethane)	< 0.65	ug/l	0.65	2.2	1	11/7/00	8021A	CAH	1
,	enzene	< 0.4	ug/l	0.4	1.3	1	11/7/00	8021A	CAH	1
•	hlorobutadiene	< 0.62	ug/l	0.62	2.1	1	11/7/00	8021A	CAH	1
	pylbenzene	< 0.38	ug/l	0.38	1.3	1	11/7/00	8021A	CAH	1
•	ropyltoluene	< 0.44	ug/l	0.44	1.5	1	11/7/00	8021A	CAH	1
	lene chloride	< 0.57	ug/l	0.57	1.9	1	11/7/00	8021A	CAH	1
MTBE		< 0.47	ug/l	0.47	1.6	1	11/7/00	8021A	CAH	1
Naphtl	halene	< 0.53	ug/l	0.53	1.8	1	11/7/00	8021A	CAH	1
n-Prop	ylbenzene	< 0.42	ug/l	0.42	1.4	1	11/7/00	8021A	CAH	1
1,1,2,2	2-Tetrachloroethane	< 0.68	ug/l	0.68	2.3	1	11/7/00	8021A	CAH	1
1,3-DC	CP, Tetrachloroethene	< 0.93	ug/l	0.93	3.1	1	11/7/00	8021A	CAH	1
Tetrac	hloroethene	2.3	ug/l	0.34	1.1	. 1	11/7/00	8021A	CAH	1
Toluer	ne	< 0.37	ug/l	0.37	1.2	1	11/7/00	8021A	CAH	1
1,2,4-7	Trichlorobenzene	< 0.6	ug/l	0.6	. 2	1	11/7/00	8021A	CAH	4
1,2,3-7	Trichlorobenzene	< 0.49	ug/l	0.49	1.6	1	11/7/00	8021A	CAH	1
1,1,1-7	Γrichloroethane	< 0.54	ug/l	0.54	1.8	1	11/7/00	8021A	CAH	1
1,1,2-7	Trichloroethane	< 0.46	ug/l	0.46	1.5	1	11/7/00	8021A	CAH	1
Trichle	oroethene	< 0.46	ug/l	0.46	1.5	1	11/7/00	8021A	CAH	1
Trichle	orofluoromethane	< 0.62	ug/l	0.62	2.1	1	11/7/00	8021A	CAH	4
1,2,4-7	Frimethylbenzene	< 0.4	ug/l	0.4	1.3	, 1	11/7/00	8021A	CAH	1
1,3,5-7	Trimethylbenzene	< 0.63	ug/l	0.63	2.1	1	11/7/00	8021A	CAH	1
Vinyl	Chloride	< 0.2	ug/l	0.2	0.6	1	11/7/00	8021A	CAH	1
m&p-2	Xylene	< 0.79	ug/l	0.79	2.6		11/7/00	8021A	CAH	1
o-Xyle	ene	< 0.64	ug/l	0.64	2.1	1	11/7/00	8021A	CAH	1

DAVE FRIES OMNNI ASSOCIATES INC ONE SYSTEMS DRIVE APPLETON WI 54914-1654

Project #

TO STANDARD THE STANDARD CONTRACTOR OF THE STAND

N1556A99

Project Name MALCHOW PROPERTY

Invoice #

E31313

Report Date 10-Nov-00

	Analyte		Units	LOD	LOQ	Dil	Run Date	Method	Analyst	QC Code		
LOD Limit of	f Detection	"J" F	"J" Flag: Analyte detected between LOD and LOQ									
	Code	Comment										
	1	All laboratory QC requirements were met for this sample.										
	2	The duplicate	The duplicate RPD failed to meet acceptable QC limits.									
	3	The spike rec	The spike recovery failed to meet acceptable QC limits.									
	4	The check sta	andard failed	to meet ac	ceptable	QC li	nits.					

CHAIN Or CUSTODY RECORD

Lab I.D. # 5031313

A. ...lytical Lab

1090 Kennedy Ave. • Kimberly, WI 54136 (920) 735-8295 • FAX 920-739-1738 • 800-490-4902 LAB@USOIL.COM

Chain # Nº 20820

ev. Date: 12-17-98

Account No. :		Quote No	o:	527	LADWUSUIL	CON				ŀ	-age	e	OT	-	
Project #: //	1656A90			Sample Integrity		eted by receiving lab. Temp, of Ten	nn Bl	ank		°C C)n le	e V)			
Sampler: (signature)	Day	n]	\rightarrow			Yes No		Contract to the contract of	100000000000000000000000000000000000000					•	5150
Project (Name / Lo	ocation): Ma	1cho 6	PIDD	elty 3225 W.	College.	Auc, Appleton, WI				An	alys	sis Req	ueste	d	
Reports To: Da			nvoice To	//- //	Talchow	Sample Handling							Oth	ner Ana	alysis
Company OM1	NN/ Ass.	oc. (Company	OMNN		Request									
	Systems			Same		_ Rush Analysis Date Required		E			=				
City State Zip				Zip /	x	Normal Turn Around	PH)	802	802	8260	413.	8310			
77	5-6900		Phone	V		Normal Turn Around	Mod/	(EPA	EPA	PA	A S	Point	.		
Lab I.D.	Sample I.D.	Colle Date	ection Time	No. of Containers Size and Type	Description*	Preservation	DRO (I	PVOC	BTEX	200	0&G (PAH (EPA 8310) Pb Flash Point			PID/ FID
5631313 A	trip	11/2/00	10:30	2,40ml	g-water	HCl			į						
6	SP2		10:58	2,40ml					/	X					
C	SPI		11:55	t (\ \rac{\rac{\rac{\rac{\rac{\rac{\rac{						
d	5P3	V	12:20	N	<u> </u>	V			>						
		<u> </u>					-	_							
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							-	-				_		-	
Split Samples: O	partment Use ffered ? \ cepted? \	'es	_ No _ No	Comments/ Special Inst *Specify groundwater "C		Water "DW", Waste Wate	r "WV	V", S	oil "	5", A	ir "A	\", etc.			
Department U Disposition of unu- Lab Should:			amples <	Relinguished By: (sign)		Time Date Rece 12:45 11/2/40	ived E	Зу: (s	sign)			Tim 	ne 	Date
Dispose Return	Reta Othe	ain for er	_days	Received in Laboratory	By: Tui	Stoubil	Т	ime:	12	:49	S		Date	=: /1/2	2/00



ENGINEERING ARCHITECTURE ENVIRONMENTAL

OMNNI ASSOCIATES, INC. ONE SYSTEMS DRIVE APPLETON, WI 54914 920-735-6900 FAX 920-830-6100