# SITE EVALUATION

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Penta Wood Products, Inc. Siren, Wisconsin

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Penta Wood Products, Inc. Siren, Wisconsin

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CONESTOGA-ROVERS & ASSOCIATES

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#### **1.0 INTRODUCTION**

Penta Wood Products Inc. (PWP) is an operating wood treating facility located in Siren, Wisconsin, which has treated posts and timbers since the 1950s. Figure 1 shows the location of Penta Wood Products Inc.

In 1987, the Wisconsin Department the Natural Resources (DNR) requested that PWP assess the environmental conditions of the Site. Subsequently, Conestoga-Rovers and Associates (CRA) was retained by PWP to develop and implement a work plan to assess potential sources of soil and groundwater contamination.

On August 21, 1987, on behalf of PWP, CRA submitted a Work Plan to assess PWP's operations. On November 3, 1987, CRA received a letter from the Wisconsin DNR approving the Work Plan with the addition of exploring the two treated wood storage areas and taking a sample of the company's water supply well. These additions were incorporated into the investigation which was carried out in 1988.

This report presents the results of CRA's assessment of the PWP site.



#### 2.0 BACKGROUND

#### 2.1 HISTORICAL OPERATIONS

Penta Wood Products has been treating and preserving wood products since the mid-1950s.

Prior to 1975, Pentachlorophenol was the only chemical used to treat wood products. The wood was treated by either dipping the butt ends of poles and timbers into a open tank of pentachlorophenol or by introducing pentachlorophenol, under a vacuum, into the wood. These two treatment methods were used until 1956 when the first pressure treating cylinder was installed. This method of treating the wood was similar to the vacuum treating method except that the treating cylinder was placed under pressure instead of a vacuum.

In 1975 a second pressure process was added. The treating process was the same as the first pressure treating process. However, a different chemical was used. This chemical, CHEMONITE, is a water borne salt treatment consisting of Arsenate and Copper II Oxide. Both the pentachlorophenol and chemonite pressure treating processes are being utilized at this time.

Figure 2 shows where each of these former and present day treating processes are located.







# LEGEND

• DNR MONITORING WELL LOCATION

figure 2 SITE PLAN Penta Wood Products, Inc.

This section summarizes past spills of wood treating liquids and associated response actions. This information was gathered from PWP.

In 1986 there were two separate incidences when treating liquids used at the Site were accidently spilled onto the ground adjacent to the retorts.

The first spill was in August of 1986. The pentachlorophenol treating cylinder had just been filled with a 5 percent solution of pentachlorophenol and the cylinder was being pressurized when the door gasket failed allowing approximately 50 gallons of pentachlorophenol to leak into the sump and onto the surrounding ground. The liquid that leaked into the sump was pumped back into the treating cylinder.

The second spill occured in October 1986. The chemonite pressure cylinder was being filled with the chemonite treating solution. The cylinder door was not secured and this allowed some 500 gallons of chemonite solution to pass through the crack around the door. Most of the liquid was contained by the sump in front of the cylinder door. Some chemonite solution did leak onto the soil

surrounding the sump. Contaminated soil was excavated and placed in drums for later disposal by Aqua Tech Co. of Port Washington, Wisconsin.

A third spill occurred on April 15, 1988, at the oil/water separator when a valve was accidently left open and the storage tank overflowed. Some oil contaminated with pentachlorophenol and water flowed onto adjacent soil and pooled in lower spots. Two drums of contaminated soil were scraped up and shipped for off site disposal.

A fourth spill occured an June 9, 1988. The oil/water separator tank, which is used to hold excess pentachlorophenol treating water prior to use in the chemonite treatment processes was overfilled and some liquid spilled onto the ground. This liquid was pumped into drums and the contaminated soils were excavated and stockpiled on a secured, tarped concrete pad for future disposal.

#### 2.3 PRELIMINARY STUDIES

The Wisconsin DNR conducted a preliminary study at the Site in 1986. This study included the installation of two (2) on site monitoring wells and two

groundwater samples, as well as six soil samples in and around the spill area. Some of the analytical data obtained by the DNR is presented in Section 4.2 of this report along with data developed by this Site Assessment.

Table 2.1 snows well details of the two on-site monitoring wells as well as water level measurements taken on two separate occasions.

There was very little stratigraphic information available from the installation of these wells.

## TABLE 2.1

# GROUNDWATER ELEVATIONS

			Water Elevatio	Level on (fr)
Well	Depth <sup>1</sup> (ft)	Elevation <sup>2</sup> (ft)	3/25/88	6/1/88
MW 1	95.5	200.00	112.60	112.35
MW2	84.8	194.19	113.43	113.19

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### Notes:

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1 - Depth from top of inside casing

2 - Top of casing elevation relative to MW1 which was assumed to be 200.00

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#### 3.0 HYDROGEOLOGIC REVIEW

Information obtained from the Wisconsin Geological and Natural History Survey indicate that there are three geologic units in the vicinity of PWP. This information was in the form of well logs for the PWP's two water supply wells, logs from wells in the Siren area and one borehole log done by the Wisconsin Geologic and Natural History Survey. This information can be found in Appendix A.

The three uppermost geologic units which underlie the PWP site are illustrated on Figure 3.

The first geologic unit is a fine to medium grained sand with occasional seams of gravel, silt and clay. This unit varies in thickness from 10 to 128 feet depending on the ground elevation. Directly under the PWP Site this sand unit is approximately 125 feet thick and is underlain by a less permeable, hardpan unit. This hardpan ranges in thickness from 20 feet to 90 feet thick and is made up of fine sand with a large percentage of clay and/or silt. Under the PWP Site this hardpan is approximately 45 to 50 feet thick and represents the second significant geologic unit. Water accumulates above the hardpan unit as evidenced by the presence of groundwater at monitoring wells MW1 and MW2 installed into the sand layer above the hardpan.



NOT TO SCALE

figure 3 GENERALIZED SOIL STRATIGRAPHY Penta Wood Products, Inc.

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Under this hard pan is another water bearing sand and gravel layer. This water bearing sand appears to be entirely saturated and may even be under artesian conditions. This lower sand unit is the aquifer in which the company water supply wells take their water, as illustrated on Figure 3.

There are several small lakes and ponds around Daniels Township as well as wetland/marshland areas.

As shown on Figure 1, there is a significant topographic relief east of the Site toward Doctor Lake. This suggests that groundwater within the upper sand unit may migrate eastward toward this wetland area. However, the groundwater flow direction is not known in either the upper or lower sand aquifer.

#### 4.0 SITE EVALUATION

#### 4.1 EVALUATION OF POTENTIAL SOURCE AREAS

On June 1, 1988, CRA conducted a field investigation to identify potential source areas. Nine test pits were excavated in and around areas shown on Figure 2, Scope of Work - Penta Wood Products. The purpose of these test pits was to identify and sample any areas that could contribute to soil and groundwater contamination. Figure 4 shows the locations of these test pits. Table 4.1 summarizes the sampling results. Appendix C provides lab reports for the soil samples taken.

The potential source areas are discussed below: -

# Potential Source Area #1 - Pentachlorophenol Treating Area

The test pit was located immediately adjacent to and surrounding the retort opening by the pentachlorophenol cylinder and sump, as shown on Figure 4. This is the current pentachlorophenol wood treating area. A soil sample was collected three feet below ground surface in the pentachlorophenol treating area and analyzed for the four process indicator chemicals (arsenic, copper, zinc and





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# LEGEND

 DNR MONITORING WELL LOCATION ////, POTENTIAL SOURCE AREA TEST PIT LOCATION

figure 4 TEST PIT LOCATIONS Penta Wood Products, Inc. pentachlorophenol). The soil in this test pit had a slight discoloration in the top 1.0 foot and a slight odor from 2.0 to 3.0 feet. There were no photoionization readings above background.

Sample results, shown on Table 4.1, indicate that pentachlorophenol was not detected and metals were not detected at elevated concentrations.

#### Potential Source Area #2 - Chemonite Treating Area

A test pit was excavated immediately adjacent to the present chemonite treatment cylinder and sump area. Soils in this test pit were discolored (green) in the top 0.5 foot. There was no odor, and no elevated photoionization readings from this test pit. A soil sample was collected from the test pit at a depth of approximately three feet below ground. This sample exhibited chemonite and pentachlorophenol contamination as evidenced by elevated levels of pentachlorophenol and metals in the soil. Water from the oil/water separator, which contains some pentachlorophenol, is also used in the chemonite treating process.

## TABLE 4.1

## POTENTIAL SOURCE AREA SAMPLING RESULTS

Potential				Param	eters (mg	/kg)
Source Area	Location	Depth (ft)	Arsenic	Copper	Zinc	Pentachlorophenol
1	Pentachlorophenol					
	Treating Area	31	0.52	20	16	ND
2	Chemonite					
	Treating Area	31	140	260	23	71
3	Former Lagoon					
	(Composite)	31	38	63	20	ND
6	Oil/Water Separator	2'	2.4	7.3	6.4	110
7	Chemonite Treated					
	Wood Storage Area					
	(Composite)	11	150	48	8.1	ND
8	Pentachlorophenol					
	Treated Wood					
	Storage Area					
	(Composite)	1'	4.2	7.0	6.4	ND

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#### Potential Source Area #3 - Lagoon Area

Three test pits were excavated in the area formerly used to hold excess treatment water. As shown on Figure 4, the lagoon is located immediately west of monitoring well MW2. The soils in these test pits showed no visual evidence of contamination, but did have a slight odor. There were no elevated photoionization readings above background.

Three soil samples (one from each lagoon test pit) was collected from a depth of approximately three feet below ground and a composite soil sample was prepared. Sample results (Table 4.1) indicate that pentachlorophenol was not detected. Metals were detected at levels above background (when compared to results collected from the pentachlorophenol treated wood storage area).

## Potential Source Area #4 - Former Vacuum Treatment Area

One test pit was excavated in the area adjacent to the former vacuum treatment facility. This building was used prior to 1956 as a pentachlorophenol treatment operation similar to the operations used today and is now being used as a garage. The soils excavated in this test pit exhibited no visual contamination or odor. Soil samples were scanned with a photoionization meter and did not exhibit readings above background.

Given the above, CRA elected not to collect a soil sample for chemical analysis on the basis that there was no evidence of potential contamination.

#### Potential Source Area #5 - Former Butt Treating Area

One test pit was excavated in the area formerly used to treat pole butts with pentachlorophenol in the early 1950s. This area is located in the present day pentachlorophenol treated wood storage area directly east of the present day garage.

The soils excavated from this test pit did not exhibit any visual contamination or odor. Soil samples were scanned with a photoionization meter and did not exhibit soil vapor readings above background.

Given the above, CRA elected not to collect a soil sample for chemical analysis on the basis that there was no evidnece of potential contamination.

#### Potential Source Area #6 - Oil/Water Separator

Two test pits were excavated in an area located north of the treatment cylinders in the vicinity of the oil/water separator used to temporarily store and separate oil and water. The soils in both of these test pits

had a brown/black discoloration as well as an odor. Both test pits showed elevated photoionization readings. The oil/water mixture is recovered from the pentachlorophenol treatment process. The oil contains pentachlorophenol and is separated from the water in a tank. Recovered oil is reused in the pentachlorophenol treatment process and the water is used as make-up water for the chemonite treatment process.

As discussed in Section 3, two spills have occurred in this area. The two test pits were excavated in areas which visually appeared contaminated. One soil sample was collected from a depth of two feet. Chemical analysis indicates that this sample contains pentachlorophenol (110 mg/kg). Metals concentrations were similar to background levels as would be expected since chemonite is not used in this area.

#### Potential Source Area #7 -Chemonite Treated Wood Products Storage Area

This area was added at the request of the Wisconsin DNR in a letter dated October 29, 1987. This area is in and around the chemonite treated wood storage areas. As suggested by DNR, 24 shallow soil samples were collected from locations evenly distributed over the chemonite treated wood storage area shown on Figure 4. One composite soil sample was prepared and analyzed. As shown on Table 4.1,

pentachlorophenol was not detected in this area as would be expected since penta treated wood products are not stored there. However, elevated levels of metals similar to the concentrations found in soil adjacent to the chemonite treating area.

## Potential Source Area #8 -Pentachlorophenol Treated Wood Products Storage Area

This area was also evaluated at the request of the Wisconsin DNR. In a manner similar to the chemonite treated wood products area, CRA collected 24 individual shallow soil samples representing the storage area and prepared one composite sample.

Analytical results for the composite sample (Table 4.1) did not detect pentachlorophenol. Metals concentrations ranged from less than 4 to 7 mg/kg and similar to the metals concentrations found in soil sampled from the pentachlorophenol treating area. Since chemonite is not used in this area, these metal concentrations are considered representative of background concentrations.

#### Potential Source Area #9 -Pentachlorophenol Storage Tank and Mixing Area

This area was not identified as a potential source area until the end of this study phase and was not investigated.

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The concrete sumps in front of each treating cylinder were leak tested to determine whether or not they were contributing to the groundwater and soil problem under the Site. Physical details of these sumps are shown in Appendix B. The sumps were drained of any product and then filled with water. Water level measurements were taken from a fixed reference point over a 48 hour period.

The chemonite retort sump water level did not drop in this 48 hour period.

The penta retort sump water level did drop . 0.5 inches in a 48 hour period.

It should be noted that the Chemonite retort sump is housed under a roof and surrounded by three walls thus protecting it from the prevailing seasonal winds. This greatly reduced the chances of evaporation from this sump.

The penta retort sump is not protected from any such structure, and is exposed to the prevailing seasonal winds. It is concluded that this 0.5 inch drop in water level is due to evaporation and that neither sump is leaking.

As part of the Scope of Work, CRA sampled the two on-site monitoring wells and one of the company water supply wells. The on-site monitoring wells were developed and stabilized prior to collecting the samples. The company water supply well was allowed to purge for 10 minutes prior to sampling. All these wells were sampled for Arsenic, Copper, Zinc and pentachlorophenol. Table 4.2 summarizes the lab results. Appendix C shows the lab reports.

Pentachlorophenol was reported at a concentration of 1300 ug/L in the company water supply well. This concentration was confirmed by a split sample taken by the Wisconsin DNR which also showed a concentration of 1300 ug/L. The second company water supply well was sampled by the State and was found to have a similar concentration of pentachlorophenol.

#### 4.4 DATA ASSESSMENT

Based on the findings of the test pit excavations, soil sample analyses, groundwater analysis and sump leakage test, the following observations are made:

#### TABLE 4.2

#### GROUNDWATER SAMPLING RESULTS

Compound	Federal Maximum Contaminant Level (MCL)*	MW 1	MW2	PWP #1 (4" dia.)
Arsenic (ug/l)	50	ND	ND	ND
Copper (ug/l)	1,000	ND	ND	20
Zinc (ug/l)	5,000	20	20	ND
Penta- Chlorophenol (ug/l)	200 (proposed MCL)	ND (<0.50)	ND (<0.50)	1300 (1300)

ND - Not detected at or above the Method Detection Limit.

\* Reference - 40 CFR 141 and 143

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( ) Wisconsin Department of Natural Resources results from split samples.

1. The presence of pentachlorophenol in groundwater sampled from PWP's production wells suggests that groundwater contamination from PWP operations has occurred. This finding suggests that pentachlorophenol has migrated downward from Potential Source Area #9 into the upper sand aquifer above the hardpan and has leaked to the PWP production wells most likely via the well installation, itself.

The groundwater quality and groundwater flow direction in the upper sand aquifer beneath the operations area is undefined.

2. Three potential source areas represent potential sources of the groundwater contamination by pentachlorophenol. These are the chemonite treating area which exhibited a pentachlorophenol concentration of 71 mg/kg, and the oil/ water separator area which exhibited a pentachlorophenol concentration of 110 mg/kg and the pentachlorophenol mixing and storage area. Neither of these areas lie in close proximity to PWP's production wells. At present it is unclear whether any of these areas may have contributed to groundwater contamination observed at PWP's production wells.

3. Metals concentrations in soil are measured at levels above background in the chemonite treating area and the chemonite treated wood products storage area. However, the levels are not considered significant for surface soils. Further, the levels found are not expected to leach into the groundwater due to the affinity of these metals to adhere to soils. This is supported by the low to non-detectable levels of metals in groundwater samples collected from the two monitoring wells adjacent to the chemonite storage area and the PWP production wells.

#### 5.0 CONCLUSIONS

Based on the findings of the PWP Site Assessment, the following conclusions are made:

- Metals concentrations above background are present in soils in the chemonite treating and chemonite treated wood products storage areas. These levels are not considered significant with respect to soil contamination or as a potential source of groundwater contamination. Further study with respect to metals at PWP is not required.
- 2. Pentachlorophenol concentrations were detected in the soil around the oil/water separator area and the chemonite treating area. These areas may represent potential sources of groundwater contamination and require further definition of the vertical and lateral extent of soil contamination.
- 3. Spills from the oil/water separator have resulted from tank overflows. The potential for recurrence is increased since the water produced from the oil/water separator periodically exceeds the required water demand for the chemonite make up water. An overflow prevention alarm has been installed and water management measures are needed to prevent recurrence of spills in the oil/water separator area.

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Water within the PWP production wells is contaminated 4. with pentachlorophenol. Upon this finding, PWP discontinued use of this water as a drinking water supply, but continued the use of the water for production. The presence of pentachlorophenol in these wells suggests that the upper aquifer beneath potential source area #9 is contaminated with pentachlorophenol. IT MAY The presence of the low permeable hardpan formation HAV should prevent downward leakage of groundwater دره contamination to the lower sand aquifer. Contamination WARAS in the lower sand aquifer may be the result of leakage AA via the well casing and may be limited to the immediate vicinity of the production wells.

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#### 6.0 SCOPE OF WORK - PHASE II

## 6.1 PURPOSE

The purpose of the Phase II work will be as follows:

- to better define the hydrogeology and stratigraphy under the Site,
- to determine the groundwater flow direction and rate in the upper sand aquifer,
- 3. to determine whether the upper sand and lower sand aquifer are interconnected via the production well installation and
- to determine groundwater quality in the upper sand aquifer.

## 6.2 PHASE II WORK PLAN

CRA proposes that two additional monitoring wells be installed in locations presented in Figure 5. These wells will be installed with a hollow stem auger arill rig.







# LEGEND

 DNR MONITORING WELL LOCATION
POTENTIAL SOURCE AREA
PROPOSED MONITORING WELL LOCATION - PHASE II

figure 5 PROPOSED MONITORING WELL LOCATIONS Penta Wood Products, Inc. Split spoon samples will be taken every five feet and the samples will be kept for geologic records. The samples will be classified by the USCS classification system. A final log will be prepared. Selected soil samples will be collected to determine the vertical extent of soil contamination.

The borehole will be advanced to the top of the handpan.

The wells will consist of a precleaned 10 foot long, 2 inch  $\emptyset$  stainless steel screen attached to 2" $\emptyset$ black iron riser pipe. A 10 foot silica sand pack will be placed around the screen and a bentonite slurry shall be pumped down on top of the sand pack. The remainder of the annulus shall be grouted to surface with a neat cement/bentonite grout. A locking protective cover and bumper posts shall also be installed.

After the wells have been installed and the grout allowed to cure, the wells will be developed and stabilized until three consecutive readings of pH, conductivity and temperature have been achieved. These wells will then be sampled for pentachlorophenol analysis.

These wells will be surveyed and water levels shall be taken on all monitoring well to more accurately determine groundwater flow directions.

The well installed nearest to the existing company water supply wells shall also be checked, by taking water levels for a 48 hour period to see if the pumping of the company water supply wells has any affect (ie. drawdown) on the upper sand aquifer well. A determination can then be made as to whether or not there is a interconnection between the upper and lower aquifers.

Once all of this data has been received and interpreted, a brief letter report will be written presenting all the new data and conclusions and recommendations. The Phase II report will be completed three months following DNR approval of this Phase II work plan.

A high level alarm has been installed on the AlAnny oil/water separator tank to provide warning to avoid future NOT tank overflows.

In addition, it is acknowledged that PWP is evaluating alternatives to manage excess water resulting from the pentachlorophenol treating process.

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All of which is respectfully submitted,

CONESTOGA-ROVERS & ASSOCIATES

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Ronald Frehner, P. Eng.

## APPENDIX A

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WELL LOGS - COMPANY WELLS

WELL LOGS - SIREN AREA

BOREHOLE LOG - PENTA WOOD PRODUCTS

WELL CONSTRUCTOR'S REPORT	WISCO	NSIN STAT	E BOARD OF HEALTH	Wel
1. COUNTY	CHECK	ONE	NAME	
2. LOCATION (Number and Street or 1/4 section, sec	tion, township a	U Village	to give subdivision name, lot and block numbers when	n avalable.)
	W- E	58.	Sec 11 In 381	N- R 17W
3. OWNER AT TIME OF DRILLING	Nor	d Ra	durta Ana V	/
4. OWNER'S COMPLETE MAIL ADDRESS	ent	Win		
5. Distance in feet from well to nearest:	BUILDING SAN	NITARY SEW	FOUNDATION DRAIN	WASTE WATER DRAI
(Record answer in appropriate block)	4		S C.I. THE SEWER CONNECTED INDEPEN	UENI C. I. III.E
CLEAR WATER DRAIN SEPTIC TANK PRIVY C. I. TILE	SEEPAGE PIT	ABSORPT	ON FIELD BARN SILO ABANDONED WE	IL SINK HOLE
90	95	1		
OTHER POLLUTION SOURCES (Give description	such as dump,	quarry, drai	age well, stream, pond, lake, etc.)	
6. Well is intended to supply water fo	r: p	lant	2	· · · · · · · · · · · · · · · · · · ·
7. DRILLHOLE	- All	10.50	10. FORMATIONS	
Dia. (in.) From (ft.) To (ft.) Dia. (in.)	From (ft.)	To (ft.)	Kind	From (ft.) To (ft.)
4 Surface 170			sand	Surface 128
			hard pan	128 152
8. CASING, LINER, CURBING, AND SCRE		To (ft.)	Class- en gravel	152 165
H 11H black	Surface	16.5	and the second	1/25- 17/
- THE NUNCE		100 2	(suna	145 110
Taverdure,	165	170		
jostor, jonnemper	en			
9. GROUT OR OTHER SEALING MATERIA	AL From (ft.)	To (ft.)		
	Surface			
· · · · · · · · · · · · · · · · · · ·				
11. MISCELLANEOUS DATA		<u> </u>	Well construction completed on C	Mag. 24 19/
Yield test: Hrs.	. at /	5 - Срм	Well is terminated S inches	below final grad
Depth from surface to normal water leve	el <u>14</u>	5 ft.	Well disinfected upon completion	Yes 1
Depth to water level when pumping	15	/ ft.	Well sealed watertight upon completion	on 🕅 Yes 🗌 I
Water sample sent to Making	n	<u> </u>	laboratory on:	11/14 19/
Your opinion concerning other pollutio	n hazards, i	nformation	concerning difficulties encountered, an	d data relating to near
wells, screens, seals, type of casing jo surface pumprooms, access pits, etc., sh	oints, metho ould be giv	d of finis en on rev	ning the well, amount of cement used	in grouting, blasting, s
			BEECROFT BE	OS. WELL DRILLING
N. I Darch	ft-		Clarence & Rt.	2 Box 109
IVM. K. Deer	Registered V	Vell Driller	Frederic,	Wisconsin 54837
COLLFORM TEST RESULT	GAS - 24 HRS	5. G	AS - 48 HRS. CONFIRMED R	EMARKS

4. 1918 -			·		· •							
WELL CO	NSTRUCI	OR'S R	EPORT			. NO	TE		DEPARTM	STATE OF V	NISCONSIN	OURCES
				Ċ	WHITE GREEN	COPY C N COPY 1 W COPY 1	ORILLER'S	S COPY S COPY S COPY	м М	adison, Wisc	ionsin 53701	د د. مر
	1000				IECK ONE				NAME	· 1		
Z. LOCATIO	N, , , <sup>1/4</sup> Se	ction,	Section	Township H/	Range	, 3. 0	NER AT	TIME OF D	RILLING	CL I		· ~
C - Grid or	$\partial 2 - \partial$	><.	Street name	3811	_7_4		DDRESS	$\frac{1}{2}$	11000	7_ P_	Cal	iela
	<u>.</u>	<u>  </u>		<u>.</u>				ite	<u>n).</u>	1/w	d.	<u>.</u>
AND – If avai	lable subdivis	ion name,	lot & block	no.			SI-OFFIC	.Ľ		- ·	х. Х	· · · ·
Distance	in feet from	well to r	nearest: ,.	BUILDING SA	NITARY SE C. I TI	WER FLOO LE C. I.	R DRAIN	FOU SEWER CON	NDATION DRA	AIN EPENDENT	WASTE WA	TILE
(Reco	rd answer in a	appropriate	e block)		20			1 811.0		WELLIS	NK HOLP	
C. I.	TILE	/ / /	)	160		non Fiel.		SILO	ABANLONEL	J WELL SI		
CHER POLL	UTION SOU	RCES (Giv	ve descriptio	n such as dump, o	quarry, dran	iage well, s	ream, pono	l, lake, etc.)				
5. Well is in	tended to su	upply wat	ter for:	the st.	1 10	A.		, <u>, , , , , , , , , , , , , , , , , </u>				
DRILLH	OLE			Yeer	664		ORMAT	IONS		·	<u> </u>	
Dia. (in.)	From (ft.)	To (ft.)	Dia. (i	n.) From (ft.)	To (1/)	$\leq$		Kind			From (ft.)	To (ft.)
0	Surface	20					UA	2 <u>4 K</u>	GRA	ref	Surface	125
6	20	12	5				ba	rð l	Car		125	170
CASING	LINER, CI	JRBING,	AND SCR	EEN		~~~	1 A	nd			1171	172
18. (11.)	101	L-A		- A Surface	170	6 -	AU.	L'EA-	Mal		10	- <u></u>
	Tipe		THO		170.	12 -1	<u>UU</u> A	4-0	PELL	<u>r:</u>		
	- All	{	<u>Y.</u>							10	AL 2	÷
3	PH	200		<u>Derees</u>	72				· · · · · · · ·		N 1 0 15	29
	eace	rd	in	1.00		76						
	ne	2/3	5 els	AV615	$\sqrt{24}$	12.				·.		
8. GROUT	OR OTHEF Kir	R SEALIN nd	IG MATEF	RIAL From (ft.)	To (ft.)	10.	TYPE OI					Se Botary
AL.	the former	- 2		Surface	20	$\overline{)}$	Rotary - a	air		A-hammer	Jettin	ng with
	sep	, <u> </u>	•		10,0		w/drilling	mud <u>1</u>	with drillin	hg mud & air		Water
I. MISCEI Yield test:	LLANEOUS	DATA	Hrs.	at Zé		M Wel	l is termin	nated	heted on Chinch	les	above below	final grade
Pepth from	surface to r	normal wa	ater level	135	5	ft. Wei	l disinfect	ted upon c	ompletion		R Y	es 🔲 No
Depth to wa	ater level wh	ien pump	ing	160		ft. Wel	l sealed w	vatertight u	ipon completi	ion	X X	es 🔲 No
ater samp	le sent to							lat	oratory on:			19
Your opinio	n concernin 19 joints, me	g other p ethod of f	ollution ha	izards, informa ie well, amount	tion conce of cement	rning diffi t used in g	culties en routing, b	countered, plasting, su	, and data rela b-surface pun	ating to nea nprooms, a	arby wells, s ccess pits, e	creens, seals, tc., should
SIGNATURE						CO	APLETE M	AIL ADDR	ESS			
				Registered M	ell Driller							
				Pie	ease do not	t write in	pace belo	W			× 8	
COLIFORM	IEST RESUL	-1		GAS - 24 IIR	ა.	GV2 - 48 j	185.	CONFIR	MED	KEMAR	79	

	We
WELL CONSTRUCTOR'S REPORT TO WI	SCONSIN STATE BOARD OF HEALTH
$\int -\frac{1}{2} d$	
1. County Burnell	Village and and
2. Location	or Section, Town and Range numbers
3. Owner [] or Agent []	partnership or firm
4. Mail Address Complete addr	las ess required
5. From well to nearest: Building_4ft; sewer X	<i>O</i> _ft; drainft; septic tank <i>L</i> _ft;
dry well or filter bedft; abandoned well	ft
6. Well is intended to supply water for:	nl
7. DRILLHOLE:	10. FORMATIONS:
Dia. (in.)     From (ft.)     To (ft.)     Dia. (in.)     From (ft.)     To (ft.)	Kind (1) (1)
4 1 104	Sundrasull 1 80
	hard than 80 98
8. CASING AND LINER PIPE OR CURBING:	alonet 9x Vou
Dia. (in.) Kind and Weight From (ft.) To (ft.)	
4 Steel 1 104	
	RECEIVED
	MAR 9 1959
9. GROUT:	
Kind From (11.) To (11.)	ENMINUTATION
	Construction of the well was completed on:
11. MISCELLANEOUS DATA:	<u>024-27</u> 195-9
Viold tost: Pro- + Hus at / CPM	The well is terminated $IU$ inches
There test. 52 mis. at Grm.	$\square$ above, below $\square$ the permanent ground surface.
Depth from surface to water-level: $\mathcal{I}_{\mathcal{I}}_{\mathcal{I}_{\mathcal{I}$	Was the well disinfected upon completion?
Water-level when pumping:f.	
Water sample was sent to the state laboratory at:	Yes No
the dian to when and	Was the well sealed watertight upon completion?
-flf-work on flg acted be - 195-1 City	Yes_X No
Signature Man Beeslop	Chans Salla Mais
Registered wen Driner Please do not wri	te in space before
Rec'd No	10 ml 10 ml 10 ml 10 ml 10 ml
Ans'd	Gas-24 hrs
Interpretation	48 hrs
	Confirm
	B. Coli

¢

State of Wisconsin Department of Natural Resources Private Water Supply Box 7921 Madison, Wisconsin, 53707	NO White Copy Green Copy Yellow Copy	TE: WELL CON – Division's Copy Form 3300–1 – Driller's Copy – Owner's Copy	STRUCTOR'S REPORT 5 Rev. 2-79
			AUG 5 U 1982
1. COUNTY Burnett		ane City Name	. /s
J's Section or Gov't. Lot	Section Township, Range	3. NAME OWNER AGENT AT TIME	OF DRILLING CHECK (A ONE
2. LOCATION Su-Su.	13 38N 174	Mrs. Wilber Peter	rsen.
OR – Grid or Street No. Street or Road	d Name	ADDRESS	
AND – If available subdivision name, lot &	block No.	POST OFFICE	ZIP CODE
4. Distance in feet from well Bullding Sar to nearest: (Record - '	nitary Bldg. Drain Sanitary C.1. Other C.1.	Bidg, Sewer Floor Drain Connected To: Storm Other C.I. Sewer Other Sewer C.I.	Bldg, Drain Storm Bldg, Sev Other C.I. Other
answer in appropriate S			
Street Sewer Other Sewers Foundation D San. Storm C.I. Other Sewer Clearwater	rain Connected to: Sewage Sur Sewage C.I. Oth Sump Clearwater	np Clearwater Septic Holding Sewage A Sump Tank Tank Seepage P NCMP Seepage B	bsorption Unit: Manure Hopper or it Retention or Pnuematic Tank
Privy Pet Pit: Nonconforming Existing Waste Pit Well	Subsurface Pumproom E Nonconforming Existing	Barn Animal Animal Silo Glass Lined S utter Barn Yard With Pit Storage Pen Yard With Pit Storage	rench illo Earthen Silage Earthen v/o Storage Trench Manure Bas Dit Or Pit
Tank			
Temporary Manure Watertight Liquid Manu Stack or Platform Basin Press Pipe	re Subsurface Waste Pond o ire Gasoline or Disposal Uni Oli Tank (Specify Ty	br Land Manure Storage Basin Other t Concrete Floor Only pe) Concrete Floor and Dartial Concrete Walls	(Describe)
5. Well is intended to supply water for:	ame ,	9. FORMATIONS	
6. DRILLHOLE	:	H	Prom (11.) 10 (11.)
Dia. (in.) From (tt.) To (ft.) Dia. (in.)	From (ft.) To (ft.)	rarapan	Surface 75
8 Surface /S		Sand+ graver	15 148
4 15 148			
7. CASING, LINER, CURBING AND SCREEN Material, Weight, Specification Dia. (in.) Mfg. & Method of Assembly	From (ft.)   To (ft.)	and the second sec	
4" New D.29 Heo HK. Pla End Btald	Surface 144 3	and the second second	
4" #10 55 Howard Smith Tele.	1443 148		
	Andrea		
	<b>~</b>	10. TYPE OF DRILLING MACHINE USED	
8. GROUT OR OTHER SEALING MATERIA	! L	Rotary-ham w/drilling mud & air	Jetting with
Kind	From (ft.) To (ft.)	Rotary-air w/drilling mud	mer Air Air 🗌 Water
Chay Slurry	Surface S	Rotary-w/drilling Reverse Rot	lary
/ /		Well construction completed on	1410 198
11. MISCELLANEOUS DATA Yield Test:	Hrs. at _20 GPM	Well is terminated inches	k√above ☐ below final grade
Depth from surface to normal water lev	el /10 FL	Well disinfected upon completion	Z Yes No
Depth of water level 20 Ft.	Stabilized 🕄 Yes 🗆 No	Well sealed watertight upon completion	Yes 🗆 No
Water sample sent to Mad.	son	laboratory on	14/2 198
Your opinion concerning other pollution hazar finishing the well, amount of cement used in g	rds, information concerning dif	ficulties encountered, and data relating to nearb	y wells, screens, seals, method of
Signature		Business Name and Complete Mailing Address	su o illino

WELL CONSTRUCTOR'S REPORT FORM 3300-15	WHITI GREE YELL	NOTE E COPY – DIVIS N COPY – DRIL OW COPY – OW	JUN ILER'S COPY NER'S COPY	4 1975 STATE OF N DEPARTMENT OF NA Box Madison, Wisc	VISCONSIN TURAL RES 450 consin 53701	OURCES
. COUNTY BURNETH	CHECK ONE	· · · · · · · · · · · · · · · · · · ·		NAME Da wie	İε	
2. LOCATION - <sup>1</sup> / <sub>4</sub> Section Township SW <sub>2</sub> - <sup>1</sup> / <sub>2</sub> - <sup>2</sup> / <sub>2</sub>	Range	3. OWNE	RATTIME OF DI	RILLING (1/a)	2 V	
OR - Grid or et-		ADDR	ESS Rt	1	· ·	
AND -If as The day of the first		POST	DFFICE 5	iren, Wi	5,	
(Record $\mu_{2}, \mu_{2}, \mu_{3}, \mu_{3}, \mu_{4}, \mu_{5},	$\begin{bmatrix} C. I. \\ J.5 \end{bmatrix}$	$\frac{1}{1}$	TLE SEWER CON	NDATION DRAIN NECTED INDEPENDENT	C. I.	
CLEAR WATER 1 10 - PRIVY SEEPAN C. I. TL 3C' 10 - C	SE PIT ABSORE	Cite	BARN SLO	ABANDONED WELL SI	NK HOLE	
OTHER POLLUTION SOURCES (Give description such as o	iump, quarry, dra	inage well, stream	n, pond, lake. etc.)	<u> </u>		
5. Well is intended to supply water for: Price	iate	resia	lence			
6. DRILLHOLE		9. FOR	MATIONS		1 <del>.</del>	
$= \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \\ \end{array} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $	<u>m (it.) 10 (it.</u>			1	From (Tt.)	
4 20 158		Jan	die gri	ave/	J	27
7. CASING, LINER, CURBING, AND SCREEN				<u>cray</u>	75	150
Dia. (in.) NEW Kind and Weight Fro	om (ft.) To (ft.	<u>,                                    </u>	kve/		70	133
■ 11#15t TeC SI	urface <u>15</u>	4	ļ			
4 5.5 #18 slot 13	4 15	8 1				
well scheen						
	R					
8. GROUT OR OTHER SEALING MATERIAL		AO. TY	PE OF DRILLIN	IG MACHINE USED	·	_
Clay Shummy Su	rface 20		e Tool ary – air	Direct Rotary	Rever	se Rotary g with
		w/d	rilling mud	with drilling mud & air		
11. MISCELLANEOUS DATA Yield test: 7 Hrs. at	/3 G	PM Well is t	erminated	inches	above below	final grad
Depth from surface to normal water level	1251	ft. Well dis	infected upon co	ompletion	ZĮ Ye	es 🔲
Depth to water level when pumping	32	ft. Well sea	led watertight u	pon completion		es 🗌
Water sample sent to Madi Sen		lab	oratory on:	4-2	Z192,	
Your opinion concerning other pollution hazards, in type of casing joints, method of finishing the well, at he given on reverse side	formation concerned mount of cemer	erning difficult nt used in grout	ies encountered, ing, blasting, sub	and data relating to ne p-surface pumprooms, a	arby wells, s ccess pits, et	creens, se: tc., shoul
SIGNATURE		COMPLI	ETE MAIL ADDRI	ESS		
Nation Chall Register	red Well Driller	Rt.	3 Fr.	edenic,	10;5,	
COLIFORM TEST RESULT GAS -	Please do no	ot write in spac GAS - 48 HRS.	e below CONFIR	MED RI MAR	<u>KS</u>	

LL CONSTRUCTOR'S REPORT	WISCONSIN STAT	E BOARD OF HEALTH	Wel 6
1. COUNTRY	CHECK ONE	NAME	/
2 LOCATION (Number and Street of 1/4 section, a	wetion, township and range. Al	so give subdivision name, lot and block numbers when	available.)
5	W-SE A	C. 11 TUD 38N	R. 17W.
8. OWNER AT TIME OF DRILLING	In Ann	1 praito bac. 11	alteritor
OWNER'S COMPLETE MAIL ADDRESS	1.	Partice In	or of the the
	Kerer.	Itra.	
Distance in feet from well to nearest:	C. I. TIL	E C. I. TILE SEWER CONNECTED INDEPEND	ENT C. I. TILE
	4		
CLEAR WATER DRAIN SEPTIC TANK PRIVY	SEEPAGE PIT ABSORPT	ION FIELD BARN SILO ABANDONED WEL	L SINK HOLE
	71		
OTHER POLLUTION SOURCES (Give descriptio	n such as dump, quarry, drai	nage well, stream, pond, lake, etc.)	<u>l</u>
Well is intended to supply water f	or: 1		
	plan	rt	
DRILLHOLE		10. FORMATIONS	· · ·
Dia. (in.) From (ft.) To (ft.) Dia. (in	.) From (f1.) To (f1.)	Kind	From (ft.) To (ft.)
Surface		sand	Surface 28
		Almant	750 -
8 CASING LINER CURBING AND SCR	I FEN	Charges officer	
Dia. (in.) Kind and Weight	From (ft.) To (ft.)	hard pan	128 132
-4 11# black,	Surface 165	Marine Strand	1 152 165
- 1 ocaco		crayer chance	
		adna	165 / 20
4 Enertine	165-170		
nozov,t			THE CHANNEL
17 1.41		-	
Ald. filtige			<u> </u>
GROUT OR OTHER SEALING MATER			
	From (TT.) To (TT.)		
•		Well construction completed on C	4 24 166
I. MISCELLANEOUS DATA	is at 1.1 GPM	Well is terminated P inches	above final grade
		Well disinfected upon completion	RT Yes No
Depth from surface to normal water le	vel 75 ft		<del></del>
Depth to water level when pumping	<u></u>	Well sealed waterfight upon completion	n
ater sample sent to		laboratory on:	Clec. 15 19
Your opinion concerning other polluti wells, screens, seals, type of casing urface pumprooms, access pits, etc., s	on hazards, information joints, method of finis should be given on rev	n concerning difficulties encountered, and hing the well, amount of cement used in erse side.	l data relating to nearby n grouting, blasting, sub-
SIGNATURE	-	COMPLETE MAIL ADDRESS	
BIGNALURE -			
	Registered Well Drille	r	
COLLEORM TEST DESULT	Please do not	write in space below	MARKS
			5-24 EB BAF

# VISCONSÍN GEOLOGICAL and NATURAL HISTORY SURVEY 3817 Mineral Point Road • Madison, WI 53705

Ve Dwr Add Dr: Eng	I name p To oer Do bress. Bo Muller. W gincer.	enta Test own of Dan ept. of Na ox 7921 adison, Wi is. Geolog E corner.)	Hole #3 niels atural Res I 53707 gical & Na	sources atural Hi Su 4.T38N.R)	istor irvey	Com Fie Alt Use y Sta Spe	pleted ld check itude tič w.l. c. cap	County 7/23 WG&N 1123 Test ~130	y: Bu /85 HS-M. 'ETM '	rnett Lemcke	T. 38 N. 	R.17	W. +
		Drill Ho	le	<u> </u>		·	Casing 4	k Liner	r Pip	e or Cu	rbing		
Di	a. from	to Dia	. from	to I	)ia.	Wgt.& Ki	nd from	to	Dia.	Wgt.&	Kind	from	to
{ 5 <sup>1</sup> 2	• 0	160'				No constr	ruction						
Γ													
									]				
			<u> </u>	<u> </u>			Gravt	1	1	1		from	
Dr	illing me	thod: aug	er 1601 Boo	14. 12/5	/0E		GIOUL					11010	
	upres 110		IOU KEC	u: 12/5/	65								
St	died by:	Terrenco	e P. Kille	een						<u></u>			
L	-										Iss	ued: \c	12186
Fo	rmations:	Drift											
	ko -			•									
Re	uarks:												
	No W	ell Construct	or's Report	Received									
							••						
					_								
$\mathbf{\rho}$	G OF WELL	:						·····					
Δ	G OF WELL Depths	: Graphic Soction	Rock	Color	Gra	in Size	2	Miscell	laneo	us Char	acteri	stics	
Δ	G OF WELL Depths 0-5	: Graphic Section	Rock Type Sand & silt	Color Dk rd bn	Gra Mode C	in Size Range Vfn/VC	Siliceous	Miscel:	laneo:	us Char	acteri	stics	
	G OF WELL Depths 0-5 5-10	$\begin{array}{c} & \\ \text{Graphic} \\ \text{Section} \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ $	Rock Type Sand & silt Sand	Color Dk rd bn n	Gra Mode C	in Size Range Vfn/VC "	Siliceous. Much gravel	Miscel: Much grav (Gran/M p	laneon el(Gren eb),sil	us Char <u>A peb). L</u> t. Little	acteri ittle cl clay.	stics ay.	
	G OF WELL Depths 0-5 5-10 10-15 15-20	Graphic Section	Rock Type Sand & silt Sand T	Color Dk rd bn n	Gra Mode C T	in Size Range Vfn/VC "	Siliceous, I Much gravel Same, Cent volc s	Miscel: Much grav (Gran/M p	laneon el(Gren eb),sil	us Char <u>A peb). L</u> t. Little	acteri ittle cl clay.	stics ay.	
Δ	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25	Graphic Section	Rock Type Sand & silt Sand n Gravel n	Color Dk rd bn n Mixed n	Gra Mode C n S peb	Ain Size Range Vfn/VC n Gran/VL pet	Siliceous. 1 Much gravel Same. Grnt.volc.rl Same but li	Miscel: Much grav (Gran/M p hy.qtzt.s ttle silt	laneon el(Gren eb).sil s(hem.s .trace	us Char: <u>/L peb). L</u> t. Little il cem).gt clay.	acteri ittle cl clay. z,sts,sc	stics ay. h.trap, M	c <u>h_snd,st.</u> \_[t] c].
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 25-30	$\begin{array}{c} \\ \text{Graphic} \\ \text{Section} \\ \hline \\ 0 \\ \hline \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	Rock Type Sand & silt Sand n Gravel n r	Color Dk rd bn n Mixed n r	Gra Mode C n Speb n M peb	in Size Range Vfn/VC " Gren/VL pet " Gren/L pet	Siliceous, Much gravel Same, Grnt,volc,r Same but li Grnt,sch.gt	Miscel: Much grav (Gran/M p hy.qtzt.s ttle silt zt.volc.r	laneon el(Gren eb),sil s(hem,s ,trace hy,ss(s	us Char <u>()</u> peb). L t, Little il cem). qt clay. il.hem cem	acteri ittle cl cløy. z.sts.sc	stics ay. h.trap, M	c <u>h snd,st</u> , \ [t] c], p. Mch snd
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40	Graphic Section	Rock Type Sand & silt Sand n Gravel n n n	Color Dk rd bn n Nixed n n n	Gra Mode C n S peb n M peb VLP	in Size Range Vfn/VC n Gren/VL pet Gren/L peb Gran/L peb	Siliceous. I Much gravel Same. Grnt.volc.rl Same but li Grnt.sch.gt Volc.gtzt.	Much grav (Gran/M p hy.qtzt,s ttle silt zt.volc,r tl sand. hy.qtzt.o	laneon el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz.hem	us Char <u>(L peb). L</u> <u>t. Little</u> <u>il cem).qt</u> <u>clay.</u> <u>il.hem cem</u> <u>t.clay.</u> <u>cemtd ss.s</u>	acteri ittle cl clay. 	stics ay. h.trap. M z,cht.tra Ltl s snd: Tr s	ch snd,st, (t1 cl, p. Mch snd t. Tr cl. ilt.clay.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45	Graphic Section Concer	Rock Type Sand & silt Sand n Gravel n n n n n	Color Dk rd bn n Mixed n n n n	Gra Mode C n S peb n M peb VLP L peb S peb	Ain Size Range Vfn/VC n Gran/VL pet Gran/L peb Gran/VL pet n Gran/M peb	Siliceous. Much gravel Same. Grnt.volc.rl Same but li Grnt.sch.gt. Volc.gtzt. V Volc.grnt,ri Same plus s	Much grav (Gran/M p hy.qtzt.s ttle silt zt.volc.r Ltl sand. hy.qtzt.q ilica cem	laneor el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s	us Char <u>A peb). L</u> t. Little i] cem). qt clay. il.hem cem t.clay. cemtd ss,s endstone.c	acteri ittle cl clay. z.sts.sc n).sts.ot sts. Mch	stics ay. h.trap. M z.cht.tra Lt1 s snd. Tr s little s	ch snd,st. <u>Ltl cl.</u> p. Mch snd t. Tr cl. ilt,clay. ilt.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50 55	Graphic Section	Rock Type Sand & silt Sand n Gravel n n n n n n	Color Dk rd bn n Mixed n n n n	Gra Mode C n S peb M peb VLP L peb S peb n	in Size Range Vfn/VC " Gran/VL pet Gran/VL peb Gran/VL peb Gran/M peb Gran/L peb	Siliceous, M Much gravel Same. Grnt,volc,r Same but li Grnt,sch.gt Volc,gtzt, M Volc,gtzt, M Volc,grnt,r Same plus s Volc,grnt,g	Much grav (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Grav)))) (Grav))))))))))))))))))))))))))))))))))))	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,hem	us Char <u>()</u> peb). L t, Little il cem). qt clay. il, hem cem t, clay. centd ss,s endstone.c centd.ss,s	acteri ittle cl cley. z,sts.sc ),sts.gt sts. Mch chert.but	stics ay. h.trap. M z.cht.tra Lt1 s snd: Tr s little s cht(hemi	ch snd,st, Ltl cl, p. Mch snd t. Tr cl. ilt,clay. ilt. c col). ct. Tr cl
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60	Graphic Section Good Concession Good Concessio	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n n M peb	in Size Range Vfn/VC n Gran/VL pet n Gran/L peb Gran/M peb Gran/L peb n n	Siliceous, I Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grnt,rl Same plus s Volc,grnt,g Same plus s Volc,grzt,g	Miscel: Much grav (Gran/M p hy,qtzt,s ttle silt zt,volc,r tl sand. hy,qtzt,g ilice cem tzt,qtz,s il cemtd rnt,rhy,q	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,hem ss, tz,hem	us Char <u>A peb). L</u> <u>t. Little</u> <u>i] cem).ct</u> <u>clay.</u> <u>i].hem cem</u> <u>t.clay.</u> <u>cemtd ss,s</u> <u>endstone.c</u> <u>cemtd ss,s</u> <u>tr</u> <u>cemtd ss,s</u>	acteri ittle cl clay. z,sts.sc h).sts.qt sts. Mch thert.but sts.ht.oolic rep. Mch	stics ay. h.trap. M z.cht.tra Ltl s snd. Tr s little s cht(hemi snd. Ltl Mch snd.	ch snd,st, (t1 c1, p. Mch snd t. Tr c1. ilt,clay. ilt, c col), st. Tr c1, Lt1 st.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65	Graphic Section Good Coord Good C	Rock Type Sand & silt Sand n Gravel n n n n n n n n	Color Dk rd bn n Mixed n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n M peb S peb	in Size Range Vfn/VC n Gran/VL pet n Gran/VL pet Gran/VL pet n Gran/M peb Gran/L peb n n n	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,gtzt. Volc,grnt,r Same plus s Volc,grnt,g Same plus s	Much grav (Gran/M p (Gran/M p hy.qtzt.s ttle silt zt.volc.r ttl sand. hy.qtzt.q ilica cem tzt.qtz,s il cemtd rnt.rhy.q ilica cem	laneon el(Gren eb),sil s(hem,s ,trace hy,ss[s Tr sil tz,hem ented s ch,hem ss, tz,hem tz,hem tz,ahem	us Char <u>A peb). L</u> <u>t, Little</u> <u>i] cem). qt</u> <u>clay.</u> <u>i], hem cem</u> <u>t, clay.</u> <u>cemtd ss, s</u> <u>endstone, c</u> <u>cemtd ss, s</u> <u>stone, cher</u>	acteri ittle cl clay. z.sts.sc ).sts.qt sts. Mch sts. Mch sts. Mch sts.ts.pt sts.trep. t.schist	stics ay. h.trap. M z.cht.tre Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mah snd.	ch snd,st. Ltl cl. p. Mch snd t. Tr cl. ilt,clay. ilt. c col), st, Tr cl. Ltl st. Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75	Graphic Section Coord Coord Co	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Mixed n n n n n n n n n n n n n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n m M peb S peb n n M peb	in Size Range Vfn/VC n Gren/VL pet n Gren/L peb Gren/L peb Gren/L peb Gren/L peb n n n n	Siliceous, M Much gravel Same. Grnt,volc,r Same but li Grnt,sch.gt Volc,grtzt, M Volc,grnt,r Same plus s Volc,grnt,g Same plus s Volc,grnt,r Same plus s Yolc,grnt,r Same.	Much grav (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Grav t) (Gran/M p (Grav t) (Gran/M p (Grav t) (Gran/M p (Grav t) (Gran/M p (Grav)	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,hem ss, tz,hem td sand ch,ss(s	us Char <u>(L peb). L</u> t, Little il cem). dt clay. il, hem cem t, clay. cemtd ss, s endstone.cc cemtd ss, s stone.chem il, hem cem	acteri <u>ittle cl</u> <u>clay.</u> <u>z,sts.sc</u> <u>b),sts.ot</u> <u>sts. Mch</u> <u>chert.but</u> <u>cht.oolic</u> <u>rap. Mch</u> <u>sts.trep.</u> <u>rt.schist</u>	stics ay. h.trap. M z.cht.tra Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mch snd. t.otzt.tr snd. Lt1	ch snd,st, [t] c], p. Mch snd t. Tr cl. ilt,clay. ilt,clay. ilt. c col), st. Tr cl. Tr cl. Tr cl. ap. Mch st. Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80	Graphic Section 2.000,000,000,000,000,000,000,000,000,00	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n n M peb S peb n n M peb	in Size Range Vfn/VC n Gran/VL pet n Gran/L peb Gran/L peb Gran/M peb n n n n sran/M peb	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grnt,rl Same plus s Volc,grnt,g Same plus s Volc,grnt,g Same plus s Volc,grnt,r Same plus s	Miscel: Much grav (Gran/M p hy.qtzt,s ttle silt zt.volc.r Ltl sand. hy.qtzt,q ilica cem tzt,qtz,s il cemtd rnt.rhy.q ilica cem hy.qtzt.s ece silt.	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,hem ss, tz,hem td sand ch,ss(s	us Char <u>A peb). L</u> <u>t, Little</u> <u>i] cem).ct</u> <u>clay.</u> <u>i].hem cem</u> <u>t,clay.</u> <u>cemtd ss,s</u> <u>endstone.c</u> <u>centd ss,s</u> <u>stone.chem</u> <u>i].hem cem</u>	acteri ittle cl clay. z,sts.sc h).sts.qt sts. Mch thert.but sts.trep. t.schist h].sts.ch	stics ay. h,trap, M z,cht,tra Lt1 s snd. Tr s little s cht(hemi snd, Lt1 Mch snd. t,ctzt,tr snd. Lt1	ch snd,st, [t1 c1, p. Mch snd t. Tr c1. ilt,clay. ilt. c ool), st. Tr c1, [t1 st. Tr c1, ap, Mch st. Tr c1.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90	Graphic Section Section Condector Co	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n n n n n n n	Gra Mode C n Speb UL peb S peb n n M peb S peb n n M peb S peb n n f n f f f f f f f f f f f f f f f	in Size Range Vfn/VC n Gran/VL pet Gran/L peb Gran/L peb Gran/L peb n Gran/L peb n Gran/M peb n n n n n n	Siliceous. M Much gravel Same. Grnt.volc.rl Same but li Grnt.sch.gt Volc.gtzt. Volc.grnt.rl Same plus s Volc.grnt.g Same plus s Volc.gtzt.o Same plus s Volc.grnt.r Same but tr Volc.grnt.r	Much grav (Gran/M p (Gran/M p (Gran/M p ttle silt zt.volc.r Ltl sand. hy,qtzt.g ilice cem tzt,qtz,s il cemtd rnt,rhy.g ilica cem hy.gtzt.s ace silt.	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem tz,hem ss, tz,hem tz,hem ch,ss(s ch,otz,	us Char <u>A peb). L</u> <u>t. Little</u> <u>i] cem).qt</u> <u>clay.</u> <u>i].hem cem</u> <u>t.clay.</u> <u>cemtd ss.s</u> <u>endstone.c</u> <u>cemtd ss.s</u> <u>stone.chem</u> <u>i].hem cem</u> <u>ss(si].hem</u>	acteri <u>ittle cl</u> <u>clay.</u> <u>z.sts.sc</u> <u>b).sts.qt</u> <u>sts. Mch</u> <u>sts. Mch</u> <u>tht.oolic</u> <u>rep. Mch</u> <u>sts.trep.</u> <u>t.schist</u> <u>clay.</u> <u>sts.ch</u> <u>sts.ch</u> <u>sts.ch</u>	stics ay. h.trap. M z, cht.tra Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mah snd. t.otzt.tr snd. Lt1 s, cht.tra Lt1	ch snd,st. Ltl cl. p. Mch snd t. Tr cl. ilt,clay. ilt. c col), st, Tr cl. ltl st. Tr cl. tr cl. st. Tr cl. st. Tr cl. p. Mch snd st. Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95	Graphic Section 2. 000 00000000000000000000000000000000	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Mixed n n n n n n n n n n n n n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n m M peb S peb n n m n n n n	in Size Range Vfn/VC n Gran/L pet Gran/L pet Gran/L pet Gran/M pet Gran/L pet n n Gran/M pet n n n n n n n n n n n n n n n n n n n	Siliceous, M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grtzt, M Volc,grnt,rl Same plus s Volc,grnt,rl Same plus s Volc,grnt,rl Same plus s Volc,grnt,r Same but tr Volc,grnt,r Same. Same.	Much grav (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Gran/M p (Grav (Gra	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,hem ss, tz,hem td sand ch,ss(s	us Char <u>(L peb). L</u> <u>t, Little</u> <u>i] cem). qt</u> <u>clay.</u> <u>i].hem cem</u> <u>t,clay.</u> <u>cemtd ss,s</u> <u>endstone.cc</u> <u>cemtd ss,s</u> <u>stone.chem</u> <u>i].hem cem</u> <u>ss(si].hem</u>	acteri ittle cl clay. z,sts.sc h),sts.gt sts. Mch chert.but cht,oolic rap, Mch sts,trep. -t,schist h],sts.ch achist,ch sts.trep. -t,schist achist,ch	stics ay. h.trap, M z.cht.tra Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mch snd. t.otzt.tr snd. Lt1 s.cht.tra Lt1	ch snd,st, [t] c], p. Mch snd t. Tr cl. ilt,clay. ilt,clay. ilt. c col), st. Tr cl. Tr cl. Tr cl. Tr cl. st. Tr cl. ap. Mch st. Tr cl. st. Tr cl. int. Tr cl. int.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100	Graphic Section 2000 000000000000000000000000000000000	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n n M peb S peb n n n m n n n n	in Size Range Vfn/VC n Gran/VL pet n Gran/VL pet n Gran/M peb Gran/M peb n n n Gran/M peb n n n n Gran/M peb n n n Gran/M peb n n n Gran/M peb n n n Gran/M peb n n n Gran/M peb n n n Gran/M peb n n n n n n n n n n n n n n n n n n n	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grnt,ri Same plus s Volc,grnt,g Same plus s Volc,grnt,r Same plus s Volc,grnt,r Same. Same but tr Volc,grnt,r Same. n n	Miscel: Much grav (Gran/M p hy.qtzt,s ttle silt zt.volc.r Ltl sand. hy.qtzt,q ilics cem tzt,qtz,s il cemtd rnt.rhy.q ilica cem hy.qtzt.s ece silt. hy.qtzt.s	laneon el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,ess tz,hem td sand ch,ss(s ch,otz,	us Char <u>A peb). L</u> <u>t, Little</u> <u>i] cem).qt</u> <u>clay.</u> <u>i].hem cem</u> <u>t,clay.</u> <u>cemtd ss,s</u> <u>endstone.c</u> <u>cemtd ss,s</u> <u>stone.chem</u> <u>i].hem cem</u> <u>i].hem cem</u>	acteri ittle cl clay. z,sts.sc h).sts.qt sts. Mch thert.but ht.oolic rep. Mch sts.trep. t.schist h.sts.chist cem).st	stics ay. h,trap, M z,cht,tra Lt1 s ott(hemi snd. It1 Mch snd. t.otzt.tr snd. Lt1 s,cht,tra Lt1	ch snd,st, [t1 cl. p. Mch snd t. Tr cl. ilt,clay. ilt. c ool), st. Tr cl. [t1 st. Tr cl. xap. Mch st. Tr cl. p. Mch snd st. Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110	Graphic Section Section Graphic Section Good Concercion Graphic Section Graphi	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n n n n n n n	Gra Mode C n Speb L peb S peb n n M peb S peb n n n n n n n n n n n n n n n n n n n	in Size Range Vfn/VC n Gran/VL pet Gran/L peb Gran/L peb Gran/L peb n Gran/M peb n n n n n n n n n n n n n n n n n n n	Siliceous. I Much gravel Same. Grnt.volc.rl Grnt.sch.gt: Volc.grnt.rl Same plus s Volc.grnt.g Same plus s Volc.grnt.r Same plus s Volc.grnt.r Same but tr Volc.grnt.r Same. T Same. T Rhy.volc.sc	Miscel: Much grav (Gren/M p hy.qtzt.s ttle silt zt.volc.r t1 sand. hy.qtzt.g ilice cem tzt.qtz,s il cemtd rnt.rhy.q ilica ctm hy.qtzt.s ace silt. hy.qtzt.ch	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,hem ss, tz,hem td sand ch,ss(s ch,otz,	us Char <u>A peb). L</u> <u>t, Little</u> <u>i] cem).qt</u> <u>clay.</u> <u>i],hem cem</u> <u>t,clay.</u> <u>cemtd ss,s</u> <u>endstone.chem</u> <u>i],hem cem</u> <u>is(si],hem</u> <u>ces(si],hem</u>	acteri <u>ittle cl</u> <u>clay.</u> <u>z.sts.sc</u> <u>b).sts.qt</u> <u>sts. Mch</u> <u>sts.trep.</u> <u>t.schist</u> <u>cem).sts</u> <u>cem).sts</u>	stics ay. h.trap. M z,cht.tra Lt1 s snd. Tr s litt2e s cht(hemi snd. Lt1 Mah snd. t.otzt.tr snd. Lt1 s,cht.tra Lt1 s,cht.tra Lt1	ch snd,st. Ltl cl. p. Mch snd t. Tr cl. ilt,clay. ilt. c ool), st. Tr cl. ilt. tr cl. Tr cl. ap. Mch st. Tr cl. p. Mch snd st. Tr cl. c. ilt. int
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110	$ \begin{array}{c} Graphic \\ Section \\ \hline 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Mixed n n n n n n n n n n n n n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n n m N peb S peb n n n n n n n n n n n n n n n n n n n	in Size Range Vfn/VC n Gran/L pet Gran/L pet Gran/L pet Gran/L pet Gran/L pet n Gran/M pet Gran/M pet n n n n n n n n Gran/M pet Gran/L pet Gra	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grt,rl Same plus s Volc,grnt,rl Same plus s Volc,grnt,rl Same plus s Volc,grnt,r Same but tr Volc,grnt,r Same. Same but tr Volc,grnt,r Same. n Rhy,volc,sc Same plus o	Much grav (Gran/M p (Gran/M p (Gran/M p ttle silt zt,volc,r tl sand. hy,qtzt,q ilica cem tzt,qtz,s il cemtd rnt,rhy,q ilica cem hy,qtzt,s ece silt. hy,qtzt,s h,qtzt,ch ranite.	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem ented s ch,hem ss, tz,hem td sand ch,ss(s ch,gtz, st,gtz,s	us Char <u>(1 peb). L</u> <u>t, Little</u> <u>i] cem). qt</u> <u>clay.</u> <u>i].hem cem</u> <u>t,clay.</u> <u>cemtd ss,s</u> <u>endstone.cc</u> <u>cemtd ss,s</u> <u>stone.chem</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cs(si].hem</u>	acteri ittle cl clay. z,sts.sc h),sts.gt sts. Mch tht,olic rep, Mch sts,trep. -t,schist n cem),st cem),st	stics ay. h.trap, M z.cht.tra Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mch snd. t.otzt.tr snd. Lt1 s.cht_tra Lt1 s.cht_tra Lt1	ch snd, st., [t1 c]. p. Mch snd t. Tr cl. ilt,clay. ilt,clay. ilt. st. Tr cl. Tr cl. Tr cl. Tr cl. Tr cl. st. Tr cl. st. Tr cl. p. Mch snd st. Tr cl. it. st. Tr cl. it. t. Tr cl. it. st. Tr cl. it. it. st. Tr cl. it. st. Tr cl. it. st. Tr cl. it. it. st. Tr cl. it. st. Tr cl. it. it. it. it. it. it. it. it
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110 110-115 115-120 120-125	$ \begin{array}{c} eq:generalized_seq_seq_seq_seq_seq_seq_seq_seq_seq_seq$	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n	Gra Mode C n Speb n Mpeb VLP Lpeb Speb n n Mpeb Speb n n m n m n n Speb	in Size Range Vfn/VC n Gran/V pet n Gran/V peb Gran/M peb Gran/M peb Gran/M peb Gran/M peb n n n Gran/M peb n n n n Gran/M peb gran/L pet n n Gran/M peb gran/L pet n n Gran/M peb gran/L pet gran/L peb	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grnt,ri Same plus s Volc,grnt,g Same plus s Volc,grnt,r Same but tr Volc,grnt,r Same. Same but tr Volc,grnt,r Same. n Rhy,volc,sc Same plus g Volc,gtzt,r	Miscel: Much grav (Gran/M p hy.qtzt.s ttle silt zt.volc.r Ltl sand. hy.qtzt.q ilica cem tzt.qtz.s il cemtd rnt.rhy.q ilica cem hy.qtzt.s ece silt. hy.qtzt.s ch silt.l	laneo el(Gren eb),sil s(hem,s ,trace hy.ss(s Tr sil tz,hem ented s ch,hem tz,hem td sand ch,ss(s ch,otz,	us Char <u>A peb). L</u> <u>t, Little</u> <u>i] cem), ct</u> <u>clay.</u> <u>i], hem cem</u> <u>t, clay.</u> <u>cemtd ss.</u> <u>sendstone.</u> <u>cemtd ss.</u> <u>stone.chem</u> <u>i], hem cem</u> <u>i], hem cem</u> <u>i], hem cem</u> <u>ss(si], hem</u> <u>cem, chem</u> <u>i], hem cem</u> <u>i], hem cem</u>	acteri ittle cl clay. z,sts.sc h).sts.qt sts. Mch sts.trep. t.schist cem).sts cem).sts t.sts,tra	stics ay. h,trap, M z,cht,tra Lt1 s It1le s cht(hemi snd. Lt1 Mch snd. t.otzt,tr snd. Lt1 s,cht,tra Lt1 s,cht,tra p. Mch sr	ch snd,st, [t] cl. p. Mch snd t. Tr cl. ilt,clay. ilt. c cool), st, Tr cl. [t] st. Tr cl. mp. Mch snd st. Tr cl. h snd, [t] st. Tr cl. h snd, [t] st. Tr cl. h snd, [t] Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110 110-115 115-120 120-125 125-130	$ \begin{array}{c} \label{eq:generalized_sequence} \hline \textbf{Graphic}\\ \textbf{Graphic}\\ \textbf{Section}\\ \textbf{a}_{1} \\ \textbf{a}_{1} \\ \textbf{b}_{2} \\ \textbf{b}_{2} \\ \textbf{c}_{2} \\ \textbf{c}_{3} \\ \textbf{a}_{1} \\ \textbf{a}_{1} \\ \textbf{b}_{2} \\ \textbf{b}_{2} \\ \textbf{c}_{2} \\ \textbf{c}_{3} \\$	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n n n n n n n	Gra Mode C n Speb Speb UL peb S peb n n M peb S peb n n n n n n S peb n n n S peb n n S peb c	in Size Range Vfn/VC n Gren/VL pet n Gren/L peb Gren/L peb n Gren/M peb n n n n Gren/M peb n n n Gren/M peb n n Gren/L peb Gren/L peb Vfn/VC	Siliceous. M Much gravel Same. Grnt,volc,rl Grnt,volc,rl Grnt,sch.gt. Volc,grnt,rl Same plus s Volc,grnt,r Same plus s Volc,grnt,r Same plus s Volc,grnt,r Same. N N Same but tr Volc,grnt,r Same. N Rhy,volc,sc Same plus o Volc,gtzt,r Same plus o Volc,grzt,r	Miscel: Much grav (Gran/M p hy.qtzt.s ttle silt zt.volc.r Ltl sand. hy.qtzt.g ilice cem tzt.qtz.s il cemtd rnt.rhy.q ilica cem hy.qtzt.s ace silt. hy.qtz.ss ch silt.l (Gran/M p	laneo el(Gren eb),sil s(hem.s ,trace hy.ss(s Tr sil tz,hem ented s ch,es(s tz,hem td sand ch,ss(s ch,otz, d sil,he ittle c beb),sil	us Char <u>A peb). L</u> <u>t. Little</u> <u>i] cem].qt</u> <u>clay.</u> <u>clay.</u> <u>centd ss</u> ,s <u>endstone.c</u> <u>centd ss</u> ,s <u>stone.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>centd ss</u> ,s <u>stone.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>centd ss</u> ,s <u>stone.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>cem].chr</u>	acteri ittle cl clay. 	stics ay. h.trap. M z,cht.tra Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mch snd. t.otzt.tr snd. Lt1 s,cht.tra Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd. Lt1 s,cht.snd.snd. s,cht.snd.snd.snd.snd.s	ch snd, st. [t1 c]. p. Mch snd t. Tr cl. ilt, clay. ilt. c cool), st. Tr cl. Ir cl. mb, Mch snd st. Tr cl. p. Mch snd st. Tr cl. ch snd, [t1] st. Tr cl. d. [t1] st. Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110 110-115 115-120 120-125 125-130 130-135	$ \begin{array}{c} Graphic \\ Sec \\ a \\ $	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Mixed n n n n n n n n n n n n n	Gra Mode C n S peb n M peb VLP L peb S peb n n M peb S peb n n n n n n s peb c n n n n n n n n n n n n n n n n s peb vLP L peb S peb n n n N peb vLP L peb S peb n n n s peb vLP L peb S peb n n n n s peb vLP L peb S peb n n n n s peb vLP L peb S peb n n n n s peb vLP L peb S peb n n n n n s peb vLP n n n n n s peb vLP n n n n n n n n n n n n n n n n n n n	in Size Range Vfn/VC n Gran/L peb Gran/L peb Gran/L peb Gran/L peb Gran/L peb n n Gran/M peb n n n n n Gran/M peb Gran/L peb n n Gran/M peb gran/L peb n n n Gran/L peb n n n Gran/L peb n n n Gran/L peb n n n n n n n n n n n n n n n n n n n	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grtzt, M Volc,grnt,rl Same plus s Volc,grnt,gr Same plus s Volc,grnt,r Same but s Volc,grnt,r Same. N Rhy,volc,sc Same plus o Volc,grzt,r Same but m Much gravel Same but li Much eilt	Miscel: Much grav (Gran/M p hy.qtzt,s ttle silt zt.volc,r tl sand. hy.qtzt,q ilica cem tzt,qtz,s il cemtd rnt,rhy.qt ilica cem hy.qtzt,s ece silt, hy.qtzt,s ch silt,l (Gran/M p ttle grav ttle grav	laneo el(Gren eb),sil s(hem,s ,trace hy,ss[s Tr sil tz,hem ented s ch,ss[s ch,em td sand ch,ss[s ch,otz, t,qtz,s (sil,he ittle c peb),sil el(Gren ayel(Gren ayel(Gren	us Char <u>(L peb). L</u> <u>t, Little</u> <u>i] cem], qt</u> <u>clay,</u> <u>i], hem cem</u> <u>t, clay.</u> <u>cemtd ss, s</u> <u>endstone, c</u> <u>cemtd ss, s</u> <u>stone, chem</u> <u>i], hem cem</u> <u>ss(si], hem</u> <u>cem], chm</u> <u>cem], cem], chm}</u>	acteri ittle cl clay. z,sts.sc h),sts.gt sts. Mch ts. Mch ts. Mch tht,oolic rap, Mch sts,trep. -t,schist h,sts,trep. -t,schist clay, clay, clay,	stics ay. h.trap, M z.cht.tra Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mch snd. t.otzt.tr snd. Lt1 s.cht.tra Lt1 s.cht.tra Lt1	ch snd, st., [t] c]. p. Mch snd t. Tr c]. ilt, clay. ilt. cool). st. Tr c]. IT c]. map. Mch st. Tr c]. p. Mch snd st. Tr c]. it. st. Tr c]. it. tr c]. map. Mch st. Tr c]. it. tr c]. map. Mch st. Tr c]. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. it. Tr c]. it. Tr c]. it. Tr c].
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110 110-115 115-120 120-125 125-130 130-135	$ \begin{array}{c} eq:generalized_set_set_set_set_set_set_set_set_set_set$	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n	Gra Mode C n Speb N Peb VLP L peb S peb n n M peb n n n n n S peb n n n S peb n n n S peb n C n C n C	hin Size Range Vfn/VC n Gren/VL pet n Gren/L peb Gran/L peb Gran/M peb Gran/M peb Gran/M peb Gran/M peb n n n n n Gran/M peb Gran/M peb Gran/M peb n n n Gran/M peb Gran/L peb Vfn/VC n n Gran/L peb	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt. Volc,grnt,ri Same plus s Volc,grnt,ri Same plus s Volc,grnt,r Same plus s Volc,grnt,r Same but s Volc,grnt,r Same. n Rhy,volc,sc Same plus o Volc,otzt,r Same but mu Much gravel Same but mu Much gravel Same but mu	Miscel: Much grav (Gran/M p hy.qtzt,s ttle silt zt,volc,r tl sand. hy.qtzt,q ilica cem tzt,qtz,s il cemtd ind, tzt,ch hy.qtzt,s acc silt. hy.qtz,ss ch silt.] (Gran/M p ttle grav Little qrave)	laneon el(Gren eb),sil s(hem,s ,trece hy,ss(s Tr sil tz,hem ented s ch,hem ss, tz,hem tz,hem td sand ch,ss(s ch,otz, ch,otz, sil,he ittle c seb),sil el(Gran/h	us Char <u>A peb). L</u> <u>t, Little</u> <u>i] cem), cft</u> <u>clay.</u> <u>i], hem cem</u> <u>t, clay.</u> <u>cemtd ss, s</u> <u>endstone.c</u> <u>cemtd ss, s</u> <u>stone, chem</u> <u>i], hem cem</u> <u>i], hem cem</u> <u>ss(si], hem</u> <u>ss(si], hem}</u> <u>ss(si], hem} <u>s</u></u>	acteri ittle cl clay. z,sts.sc h),sts.gt sts. Mch sts.trep. t,schist ht,oolic rep. Mch sts,trep. t,schist clay, clay, clay,	stics ay. z,cht.trap. M z,cht.tra <u>lt1 s</u> snd. Tr s <u>lit1e s</u> cht(hemi snd. Lt1 Mch snd. <u>t.gtzt.tr</u> snd. Lt1 s,cht.tra <u>t.gtzt.tr</u> <u>s,cht.trap. Mc</u> <u>s</u> <u>cht(hemi</u> snd. Lt1	ch snd, st. [t1 cl. p. Mch snd t. Tr cl. ilt, clay. ilt. c col), st. Tr cl. [t1 st. Tr cl. mp. Mch snd st. Tr cl. h snd, [t1] it. Tr cl. h snd, [t1] Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110 110-115 115-120 120-125 125-130 130-135 135-140 140-145 145-150	$ \begin{array}{c} eq:generalized_seq_seq_seq_seq_seq_seq_seq_seq_seq_seq$	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n Nixed n n n n n n n n n n n n n	Gra Mode C n Speb Speb J Deb Speb n n Mpeb Speb n n N Peb Speb n n M Peb Speb n n Speb n n Speb n n M C C M/C	in Size Range Vfn/VC n Gren/VL pet n Gren/L peb Gran/L peb Gran/L peb Gran/L peb n n n Gran/M peb n n n Gran/M peb n n n Gran/L peb Gran/L peb n n n Gran/L peb gran/L peb n n n Gran/L peb n n n n Gran/L peb n n n n Gran/L peb gran/L peb gran/L peb n n n n n n n n n n n n n n n n n n n	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt Volc,grnt,ri Same plus s Volc,grnt,ri Same plus s Volc,grnt,r Same plus s Volc,grnt,r Same. Same but tr Volc,grnt,r Same. n n Rhy,volc,sc Same plus o Volc,gtzt,r Same plus o Volc,gtzt,r Same but mu Much gravel Same but mu Much silt. Same but mu	Miscel: Much grav (Gran/M p hy, qtzt, s ttle silt zt.volc.r Ltl sand. hy, qtzt, q ilica cem tzt, qtz, s il cemtd rnt, rhy, q ilica cemtd rnt, rhy, q ilica cemtd rnt, rhy, q ilica cemtd silt, qtz, ss ch silt, l (Gran/M p ttle grav Little qr ch gravel Little qr	laneo el(Gren eb),sil s(hem,s ,trece hy,ss(s Tr sil tz,hem ss, tz,hem td sand ch,ss(s ch,otz, ch,otz, sil,he ittle c eb),sil el(Gran/A sve)(Gra	us Char <u>A peb). L</u> <u>t, Little</u> <u>i] cem}, qt</u> <u>clay.</u> <u>i] hem cem</u> <u>t, clay.</u> <u>cemtd ss,s</u> <u>endstone, cc</u> <u>centd ss,c</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, Little</u> <u>ss(si], hem</u> <u>t, Little</u> <u>y peb].</u> <u>zn/M peb].</u> <u>t, clay.</u> <u>t, Little</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, clay.</u> <u>t, little</u> <u>t, clay.</u> <u>t, clay.</u>	acteri ittle cl clay. z,sts,sc h).sts.qt sts. Mch sts. Mch sts.trep. t,schist cem),sts cem),sts t,sts,tra clay. clay.	stics ay. h,trap, M z,cht,tra Lt1 s intile s cht(hemi snd, It1 Mch snd. t. t.otzt,tr snd. Lt1 s,cht,tra Lt1 s,cht,tra h,trap. Mch sr	ch snd,st, [t1 cl. p. Mch snd t. Tr cl. ilt,clay. ilt. c ool), st. Tr cl. [t1 st. Tr cl. map. Mch st. Tr cl. p. Mch snd st. Tr cl. ch snd, [t1] t. Tr cl. ind. [t1 st. Tr cl.
	G OF WELL Depths 0-5 5-10 10-15 15-20 20-25 25-30 30-35 35-40 40-45 45-50 50-55 55-60 60-65 65-70 70-75 75-80 80-85 85-90 90-95 95-100 100-105 105-110 110-115 115-120 130-135 135-140	$ \begin{array}{c} eq:generalized_set_set_set_set_set_set_set_set_set_set$	Rock Type Sand & silt Sand n Gravel n n n n n n n n n n n n n n n n n n n	Color Dk rd bn n n Mixed n n n n n n n n n n n n n	Gra Mode C n Speb Speb Lpeb Speb n n Mpeb Speb n n n n Speb n n Speb n n Speb n n m C C C Speb	Ain Size Range Vfn/VC n Gren/VL pet n Gren/L pet Gren/L pet n Gren/M pet n n n n n n Gren/M pet n n n f n Gren/M pet n n Gren/L pet Gren/L pet Ufn/VC n n Gren/L pet Gren/L pet Gren/L pet Gren/L pet n n n n f n gren/L pet n gren/L pet gren/L pet n gren/L pet gren/L pe	Siliceous. M Much gravel Same. Grnt,volc,rl Same but li Grnt,sch.gt. Volc,grnt,rl Same plus s Volc,grnt,g Same plus s Volc,grnt,g Same plus s Volc,grnt,r Same plus s Volc,grnt,r Same. N Rhy,volc,grnt,r Same. N Rhy,volc,sc Same plus o Volc,grtt,r Same but tru Much gravel Same but mu Much silt, Calcareous, Volcanics.c	Miscel: Much grav (Gran/M p hy.qtzt.s ttle silt zt.volc.r Ltl sand. hy.qtzt.g ilice cem tzt.qtz.s il cemtd rnt.rhy.q ilica cem hy.qtzt.s ece silt. hy.qtzt.s ch silt.l (Gran/M p ttle grav Little qrav Little qrav Little qrav Little qrav Much cla uertzite	laneo el(Gren eb),sil s(hem,s ,trace hy,ss(s Tr sil tz,hem tz,hem tz,hem td sand ch,ss(s ch,sts ch,otz, ch,otz, sil,he ittle co beb),sil el(Gran/A schist schist	us Char <u>A peb). L</u> <u>t. Little</u> <u>i] cem}.qt</u> <u>clay.</u> <u>clay.</u> <u>centd ss.s</u> <u>endstone.c</u> <u>centd ss.s</u> <u>stone.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>centd ss.s</u> <u>stone.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cemtd ss.s</u> <u>stone.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].cem}.cher <u>i].hem cem</u> <u>ss(si].hem</u> <u>cem}.cher</u> <u>i].hem</u> <u>cem}.cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>i].hem</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher</u> <u>cem].cher <u>cem].cher</u> <u>ce</u></u></u>	acteri ittle cl clay. iz,sts,sc ),sts,qt sts. Mch sts. Mch sts,trep. rt,schist h,sts,trep. cem),sts cem),sts clay. clay. (Gren/S p ltstone.s	stics ay. h.trap. M z,cht.tra Lt1 s snd. Tr s little s cht(hemi snd. Lt1 Mch snd. t.otzt.tr snd. Lt1 s,cht.tra Lt1	ch snd, st, [t1 c], p. Mch snd t. Tr cl. ilt, clay. ilt, c ool), st. Tr cl. Ir cl. map. Mch st. Tr cl. p. Mch snd st. Tr cl. ch snd, [t1] st. Tr cl. d. [t1] st. Tr cl. d. [t1] st. Tr cl. d. [t1] st. Tr cl.

APPENDIX B

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SUMP DETAILS:

.

PENTA AND CHEMONITE RETORTS



CHEMONITE TREATMENT CYLINDER & SUMP PENTA WOOD PRODUCTS, IN. 5-1-87

6 DIALTO P.

GROUND LINE









# APPENDIX C

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LABORATORY REPORTS

SOIL AND GROUNDWATER SAMPLES

PACE REPORT OF LA	BORATOR	Y ANALY	/SIS	Offices: Minnea Tampa Coralvi	apolis, Minnesota , Florida Ile, Iowa
Conestoga Rovers & Associates, Inc. 382 West County Road D St. Paul, MN 55112	July 1 PACE P	4, 1988 roject Nu	ımber: 880	0602519	
Attn: Mr. Steven Mockenhaupt					
Penta Wood Prod.					
Date Sample(s) Collected: 06/01/88 Date Sample(s) Received: 06/02/88					
PACE Sample Number: <u>Parameter</u>	<u>Units</u>	_MDL_	142270 S-01	142280 S-02	142290 S-03
Arsenic Copper Moisture content Pentachlorophenol Zinc	mg/kg mg/kg % mg/kg mg/kg	0.05 0.25 0.01 4.7 2.5	140 260 6.6 71 23	0.52 20 5.5 ND 16	2.4 7.3 3.6 110 6.4

MDL	Method Detection Limit
ND	Not detected at or above the MDL.

-

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1710 Douglas Drive North D Minneapolis, MN 55422 D Phone (612) 544-5543 an equal opportunity employer

# REPORT OF LABORATORY ANALYSIS

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Offices: Minneapolis, Minnesota

Tampa, Florida Coralville, Iowa

Mr. Steven Mockenhaupt

Page 2

July 14, 1988 PACE Project Number: 880602519

PACE Sample Number: <u>Parameter</u>	<u>Units</u>	MDL	142300 S-04	142310 S-05	142320 <u>S-06</u>
Arsenic Copper Moisture content Pentachlorophenol Zinc	mg/kg mg/kg % mg/kg mg/kg	0.05 0.25 0.01 4.7 2.5	38 63 6.7 ND 20	150 48 6.0 ND 8.1	4.2 7.0 3.9 ND 6.4

MDL Method Detection Limit ND Not detected at or above the MDL.

The analyses of soil samples were performed 'as received' and do not reflect analyses on a dry weight basis unless indicated.

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my direct supervision.

Thomas L. Halverson Inorganic Chemistry Manager

mil &

William H. Scruton Organic Chemistry Manager

pace laboratories, inc.	REPORT OF LA	ABORATOF	RY ANAL	YSIS	Offices: Minnea Tampa Coralvi	apolis, Minnesota , Florida ille, Iowa
Conestoga Rovers & Asso 382 West County Road D St. Paul, MN 55112	ciates, Inc.	April 2 PACE Pr	27, 1988 oject Nu	umber: 880	328519	
Attn: Mr. Steven Mocke	nhaupt			•		
2140	,					
Date Sample(s) Collecte Date Sample(s) Received	d: 03/25/88 : 03/28/88					
PACE Sample Number:				070090	070100	070110
Parameter		<u>Units</u>	MDL	<u>Well #1</u>	Well #2	Well
Arsenic Copper Pentachlorophenol Zinc		ug/L mg/L ug/l mg/L	1 0.01 14 0.01	ND ND ND 0.02	ND ND ND 0.03	ND 0.02 1300 ND

ND	
MDL	

Not detected at or above the MDL. Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analysis were performed by me or under my direct supervision.

l'h

Thomas L. Halverson Inorganic Chemistry Manager

with

William H. Scruton Organic Chemistry Manager

Department of Natural Resources	ORGANICS Form 4800-6 2
Bill To: Solid Waste Mazardous Waste Wastewater	🗌 Water Supply 🗍 Spills 🗍 Other
I.D.     Point/     H       Number       Well #	Field # 3 HJO Supply County 07 Code
I.D. Name PENTA WOOD PRODUCTS	P.O. or City Siren, W1
Collection Date $A = \frac{3}{M} - \frac{7}{D} - \frac{5}{D} - \frac{8}{V} + \frac{8}{V} + Time: - \frac{5}{H} + \frac{5}{H} + \frac{5}{M} + \frac{5}{M$	Sample Location ATE P 1990
Description	Carrientiers, carrier app
Send Lan Polczinski DEUR Cumberland Report P.O. Box 397 Cumberland, WI 54829 Account SW010	MW Monitoring well   M EF Effluent   OW   Water     LY   Lysimeter   IF Influent     LE   Leachate   SO   Soil     SE   Sediment   OI   Oil     SU   Surface Water   SL   Sludge     ✓   PW   Private Well   OT   Other
Number      Collected By   Len. Polezinsle:     Phone $(] ] ] ] ] ] ] ] 2 2 - 3 5 9 0$ Check any appropriate:   YB     YS   Split   E   Enforcement   YB   Field Blank     S   Surface Source   T   Treated	Water System Type (Water Supply Use ONLY)     M Community- Municipal     O Community- OTM     W Raw Water if New W OTM     N Non-community I Miscellaneous Distribution     ¥ P Private
Chemical Name Concentration	X Non-potable
_ Gasoline 269   _ Fuel Oil #1 263   _ Fuel Oil #2 266   _ O O (1 / 1) 263	Priority Pollutant Scan (Non-VOC)
	· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·	
	· · · · ·
	Comments:
	87.8 35.47
	Date Received MAR 2 9 1529
H. Laessig, PhD, Director	

Department of Natural Resources	ORGANICS Form 4800-6 2-8				
Bill To: Solid Waste Hazardous Waste Wastewater I.D. Point/ Number Well #	Water Supply     Spills     Other       Field     MW-Z     County     Q7     Route       Code				
I.D. Name PENTA WOOD PRODUCTS	P.O. or City W1				
Collection Date $A = A = A = A = A = A = A = A = A = A $	Sample Location MW-2				
Description					
Send Report To: Len Polczinski DNR Cumberland P.O. Box 397 Cumberland, WI 54829	MW Monitoring well EF Effluent OW Was LY Lysimeter IF Influent LE Leachate SO Soil SE Sediment OI Oil SU Surface Water SL Sludge PW Private Well OT Other				
Number $\underline{SW010}$					
Collected By Len Polezinsk Phone (JJS) BZ2-3590 Check any appropriate:	Water System Type (Water Supply Use ONLY) M Community- Sample Type: Municipal O Community W Raw Water ~ if New We OTM				
$\checkmark$ S Split _ E Enforcement $\checkmark$ B Field Blank _ S Surface Source _ T Treated	N Non-community I Miscellaneous Distribution P Private				
Chemical Name     Concentration       Gasoline     269       Fuel Oil #1     263       Fuel Oil #2     265	Priority Pollutant Scan (Non-VOC)				
× Pentachlarophenal < 0.50	Jug/2				
·					
······································					
	Comments:				
	Date Received 87-8 3541 MAR 29 1988 And Sample No.				
R. H. Laessig, PhD, Director Wisconsin State Laboratory of Hygiene	LEP 5 1988				

Repartment of Natural Resources		ORGANICS Form 4800-6
If New Facility Bill To: Solid Waste M Hazardous Waste	] Wastewater [	Water Supply Spills Other
I.D. Point/ Number Well	F N	Field     Mw-1     County # Q7     Route       No.     Mw-1     Code
I.D. Name PENTA WOOD PRADUCTS		P.O. or City Siren, W1
Collection Date $\Delta A = \frac{1}{D} \frac{1}{D$		Sample
Description		
· · ·		MW Monitoring well FF Effluent OW W
Len Polczinski		LY Lysimeter IF Influent
Send ONR Cumberland Benort On Der 297		LE Leachate SO Soil
To:		SE Sediment OI Oil
Cumberland, WI 54829		SE SeminentOI On
		SUSurface waterSLSludge
Account CHICOLC		PW Private well OI Other
Number $5 \text{ WU1 } 0$		
Collected By Len Poleringle		Water System Type (Water Synaly Har ONLY)
		M Community- Sample Type:
Phone $(1 \downarrow 5) B = 22 \cdot 3 = 59$	>	Municipal
Check one annuariate		O CommunityW Raw Water if New V
$\checkmark$ S Split E Enforcement $\checkmark$ B Field B	lank	OIM N. Nationality I. Missellenson Distribution
		N Non-community I Miscellaneous Distribution
S Surface Source T Treated		P Private
Chamical Nama	Concentration	
Coopline 260	Concentration	
	·	Priority Pollutant Scan (Non-VOC)
Fuel Oil #1 263	<u> </u>	
Fuel Oil #2 265		
X <b>D</b> + allowed al	< 0.50	un 18
	<u> </u>	mg/~
	<u></u>	
<u> </u>		
	·····	
		Comments:
		· · · · · · · · · · · · · · · · · · ·
		Date Received 87-8 3540
		And Sample No MAR 2 9 1988
R. H. Laessig, PhD, Director Wisconsin State Laboratory of Hygiene	•	13777 APR 5 1089
Madison, Wisconsin 53706		Date Reported 1900
Madison. Wisconsin 53706		Date Reported