July 28, 1993

Foth & Van Dyke

2737 S. Ridge Road P. O. Box 19012 Green Bay, WI 54307-9012 414/497-2500 FAX: 414/497-8516

Planners Mr Scientists W

Mr. Mike Schmoller WDNR - Southern District 3911 Fish Hatchery Road Fitchburg, WI 53711

Dear Mr. Schmoller:

RE: Borgerding ERP Project Contamination Study

During the period June 1-14, 1993, Foth & Van Dyke conducted investigatory activities at the Ursula Borgerding Estate Property, 433-437 Portland Avenue, Beloit, Wisconsin to augment the completion of the extent of contamination study required by the Wisconsin Department of Natural Resources (WDNR). These activities included:

E C I I I I

- The drilling and Hydropunch® II sampling of two approximately 50-foot soil borings.
- The installation of six groundwater monitoring wells.
- The collection of four soil samples for hazardous waste determination.
- The collection of ten soil samples for comparative enumeration assays (CEAs).
- The retrofitting of nine existing monitoring wells (originally installed with upright protective casings) with flush-mounted protective casings.

A summary of drilling/sampling procedures and results for each of the field activities conducted is presented below.

## **Hydropunch Borings**

During the period June 1-2, 1993, Soil Boring Nos. Sb-12 and SB-13 were drilled and groundwater was sampled to evaluate the depth to set well screens at planned "deep" monitoring well locations. The soil boring locations are shown in Figure 1 (Attachment 1). The soil boring logs are presented in Attachment 2 and the borehole abandonment forms are included in Attachment 3. Hydropunch® II groundwater sampling analytical results are presented in Table 1 (Attachment 4). The laboratory reports are included in Attachment 5.

## Soil Boring Hydropunch® II Drilling/Sampling

The soil borings were advanced using a four-inch tricone bit and NWJ drill rod recirculating bentonite drilling mud. Drilling water was obtained from a City of Beloit hydrant located in the adjacent Riverside Park parking lot. Upon advancement of each borehole to a depth of 25 feet, groundwater samples were collected at five-foot intervals to a depth of approximately 50 feet by drilling a precleaned Hydropunch® II sampler three to

four feet beyond the open borehole bottom. Following maximum advancement of the Hydropunch® II sampler in a given sampling interval, it was back pounded approximately two feet to expose a new well screen to the saturated formation. However, fine sands under hydrostatic pressure consistently locked the well screen into the Hydropunch® II chamber preventing it's exposure to the formation. Groundwater did, however, enter the chamber through the bottom of the sampler. A precleaned polyethylene bailer was lowered through the drill rod and into the Hydropunch® II chamber to collect groundwater samples for benzene, ethylbenzene, toluene and xylenes (BETX) laboratory analyses.

Groundwater was transferred directly from the bailer to 40-ml glass vials, which were immediately placed in iced, secure storage and subsequently shipped to the ORTEK laboratory of Green Bay, Wisconsin via overnight courier service. Chain-of-custody protocol was maintained by Foth & Van Dyke and is included in Attachment 5.

Procedures were followed to minimize the potential for cross-contact of a Hydropunch® water sample with borehole mud and previous sampling intervals.

All drill rod threaded joints were teflon taped to minimize inward leakage into the Hydropunch® II chamber. In addition, all sampling equipment (including the Hydropunch® II sampler, bailer and drill rod) was hot water pressure washed between sampling intervals.

Following borehole/sampling completion, the borehole was abandoned by thickening the existing drilling mud with granular bentonite and pumping it into the borehole through the NWJ drill rod. Settlement was subsequently topped up to the surface with bentonite chips (Attachment 3). Unused drilling mud was containerized in 55-gallon drums labelled and staged on-site. The drums were subsequently removed from the site by the City of Beloit and placed in secure storage at a city wastewater treatment facility. Table 2 (Attachment 4) provides a listing of the containerized waste.

### Hydropunch Analytical Results

The analytical results from the Hydropunch II® groundwater sampling are presented in Table 1 (Attachment 4).

At soil boring No. SB-12, detections of benzene ranged from 1.8 to 19 ug/l and occurred in four of the five samples. The highest BETX concentrations occurred in the sample most resembling drilling mud in appearance, which suggests the possibility of some cross-contact with the drilling mud used to keep the borehole open during advancement and sampling. A petroleum product contaminated zone in the upper ten feet of the borehole may have contaminated the drilling mud, which was recirculated throughout the boring. The potential cross-contamination impact due to the drilling method is uncertain.

At soil boring No. SB-13, the 27- to 29-foot sampler interval contained benzene at 290 ug/l. BETX compounds were not detected at or above detection limits in any other sample.

Based upon these analytical results which included benzene detections down to 48 feet (in Soil Boring No. SB-12), it was decided by Foth & Van Dyke and the WDNR to screen the 45-50 foot zone at the four planned "deep" monitoring wells (piezometers).

### **Monitoring Wells**

A total of six monitoring wells (five piezometers and one water table well) were installed and developed during the period June 3-14, 1993. The wells identified as MW-1DD (Adjacent to MW-1), MW-2DD (adjacent to MW-2S and MW-2D), MW-3DD (adjacent to MW-3S and MW-3D) and MW-11S, MW-11D and MW-11DD (on the south edge of the Portland Avenue Right-of-Way [ROW]) are shown in Figure 1 (Attachment 1). Soil boring logs are presented in Attachment 2. Monitoring well construction (WDNR 4400-113a) and monitoring well development forms (WDNR 113b) are presented in Attachment 6. Groundwater sampling and surveying of these wells was not performed by Foth & Van Dyke.

### Monitoring Well Drilling/Installation

All wells, with the exception of Well No. MW-11S, were drilled using a six-inch tricone bit and NWJ drill rod recirculating bentonite drilling mud. Drilling water was obtained from the City of Beloit hydrant in the Riverside Park parking lot. Temporary six-inch inside diameter (I.D.) steel casing at lengths varying from 5 to 25 feet were installed at mud rotary borings to enhance recirculation and limit formation collapse. Well No. MW-11S, installed as a water table monitoring well, was drilled using 4.25-inch I.D. hollow-stem auger (HSA). The drilling subcontractor was WTD Environmental Drilling, Inc. of Schofield, Wisconsin.

Limited split-spoon sampling was conducted to obtain subsurface soil conditions information including photoionization detector (PID) headspace values. PID headspace readings were obtained using a Microtip HL-200 PID, manufactured by Photovac, Inc., with an ultraviolet lamp strength of 10.6 electron volts (eV). The PID was cleaned and calibrated prior to use each day according to manufacturer's specifications for the detection of ionizable organic compounds (IOCs), using an isobutylene standard of 100 parts per million (ppm). Following sampler retrieval from the borehole, the contents were inspected for visual evidence of contamination and placed in a four-ounce glass container for subsequent PID headspace screening. Following a headspace development period of approximately 20 minutes, the screw cap was removed and the seal quickly punctured with the PID sampling probe. The highest PID response was recorded as the sample headspace value. The soil samples were visually classified using the Unified Soil Classification System (USCS). Soil boring logs are presented in Attachment 2.

In addition, drilling mud PID headspace screening was conducted at some borings, where the potential for cross-contamination from upper stratigraphic zones to lower zones was suspected. Recirculating drilling mud was collected in four-ounce glass bottles and screened as described above. Mud PID values are included on the boring logs (Attachment 2).

Following the advancement of a mud rotary boring to a depth necessary to install a piezometer, the well pipe string was set through the mud and the drilling mud was flushed and retrieved from the borehole by pumping "clean" water through the well pipe and up through the borehole annular space and back to the mud tub. Immediately following borehole flushing, the installation of well construction sand or sealant was initiated. The water table well was installed through the HSA without the use of drilling water and/or fluids.

All wells were constructed with two-inch ID Schedule 40 PVC riser pipe and well screen. Flush mounting protective covers and locking gasket caps were installed at all wells. Piezometers were constructed with a five-foot segment of well screen set to the predetermined depth of either 25 feet (MW-11D) or 50 feet (MW-1DD, MW-2DD, MW-3DD and MW-11DD). The water table well was constructed with a ten-foot segment of well screen positioned to intersect the water table. Filter sand pack and seal were installed in accordance with NR 141 except where the collapse of natural foundation sands and gravels prevented the full addition of filter pack sand. The bentonite/annular space seal was constructed with 3/8-inch bentonite chips and concrete was used for the surface seal.

Equipment decontamination procedures were followed to minimize the possibility of crosscontamination between samples and boreholes. Downhole drilling equipment (i.e., augers, bits, drill rods, etc.) was cleaned with a high pressure hot water wash system between borings. Split-spoon samplers were decontaminated between samples as follows:

- Tap water/trisodium phosphate detergent (TSP) wash.
- Tap water rinse.
- Distilled water rinse.
- Air dried.

All recovered drilling mud and soil cuttings were containerized in 55-gallon drums, labeled and staged on site. Mud waste included excessively sandy mud retrieved from the mud tub prior to mixing new batches and mud flushed prior to well pipe installation. All drums were subsequently removed from the site (by the City of Beloit) and placed in secure storage at a city wastewater treatment facility. Table 2 (Attachment 4) summarizes the quantities and types of wastes which were drummed.

Observations made during the drilling of the new wells are included on the soil boring logs. However, a brief summary of several noteworthy installation observations is included below:

- A high water table and hydrostatic pressures in the saturated subsurface alluvial sands and gravels presented drilling difficulties which resulted in time consuming drilling mud recirculation problems (e.g., drill rod plugging) and required frequent remixing of mud. In addition, some difficulty was encountered with formation collapse around the well pipe when the mud was flushed from the borehole during well installation activities.
- Shallow subsurface soil and water table groundwater contamination at Well Nos. MW-1DD, MW-2DD and MW-3DD likely impacted recirculating drilling mud during the advancement of the boring. Intermittent mud PID headspace readings and the occasional appearance of oily sheens indicated some degree of petroleum product presence. The occasional removal of contaminated drilling mud and replacement with new drilling mud may have lessened the potential impact of crosscontamination to the eventual screened zone(s).
- Based upon soil sample PID field screening results, a zone of petroleum product contamination appears to be present in the 20- to 25-foot zone at the location of the Well Nos. MW-11S, MW-11D, and MW-11DD well nest.

### Monitoring Well Development

All new monitoring wells were developed in accordance with s. NR 141 Wis. Adm. Code during the period June 10-14, 1993. All wells were pumped using a Brainard-Kilman 1.7-inch hand pump discharging to 55-gallon drums. Monitoring well development forms are presented in Attachment 7.

Development water drums were labeled and staged on site until transferred by the City of Beloit to the wastewater treatment facility for storage.

Equipment decontamination procedures were followed to minimize the possibility of crosscontamination between wells. Downwell pump components were cleaned with a high pressure hot water wash system between wells.

## Soil Sampling

Near surface soil sampling was conducted on June 4, 1993 to obtain samples for waste characterization (hazardous waste determination) and microbiology screening. Soil sampling locations are shown in Figure 1 (Attachment 1). A summary of the waste characterization analytical results is presented in Table 3 (Attachment 4). A summary of the microbiology screening (or comparative enumerating assay [CEA] results) is presented in Table 4 (Attachment 4). The laboratory reports for all soil sampling is included in Attachment 5.

### Waste Characterization Soil Sampling

Soil samples were collected from four locations (WC-01, WC-02, WC-03 and WC-04) shown in Figure 1. Locations WC-01 and WC-02 were selected due to their proximity to previously detected elevated total petroleum hydrocarbon (TPH) concentrations in black fill material at locations MW-3S and MW-1, respectively. Locations WC-03 and WC-04 are located within a previously identified area where paint waste may be present.

The soil at the locations sampled were composited over the sampling intervals below:

Sample I.D. No.	Sample Interval (Feet)	Soil Description
BE-WC-01	3-7'	Black gravelly sand fill, moist to wet.
BE-WC-02	1-5'	Black silty gravely sand fill, moist.
BE-WC-03	1-5'	Black & gray-brown gravel and sand fill, moist to wet.
BE-WC-04	1-5'	Brown gravelly sand fill and silty sand, moist.

The soil samples were collected by pounding precleaned split-spoon samplers over the intervals indicated. The split-spoon sampler contents were composited in stainless steel trays and subsequently transferred to sample containers for the laboratory analysis of toxicity characteristics leaching procedure (TCLP) volatiles, TCLP semivolatiles, TCLP metals, TCLP pesticides and TCLP herbicides. All samples were placed in secure, cool storage and a chain-of-custody protocol was maintained by Foth & Van Dyke. The samples were shipped the day of collection via overnight courier service to the ORTEK laboratory in Green Bay, Wisconsin.

Split spoon samplers and stainless steel sampling equipment was decontaminated with a high pressure hot water spray wash system and allowed to air dry between samples.

The analytical results are summarized in Table 3 (Attachment 4). The results did not indicate that any of the samples analyzed exhibited characteristics of a TCLP hazardous waste. TCLP organics testing did not detect concentrations above the laboratory detection limits. In addition, only barium at concentration levels below hazardous waste concentrations was detected among the TCLP metals.

### **CEA Soil Sampling**

Ten soil samples for CEA analysis were collected from seven locations shown in Figure 1 (Attachment 1). Sampling locations were selected to represent a wide spatial and previously evaluated TPH concentration distribution (by locating in close proximity to previous drilling/sampling locations). For example, Location CEA-07, adjacent to former Well No. MW-6 was selected as a potential clean area. Other locations such as CEA-02

and CEA-03 were selected due to their close proximity to known contaminated areas. In addition, the degrader population (i.e., gasoline or diesel) was varied to evaluate the presence of microorganisms capable of degrading the contaminant most likely to be present in a given area.

Grab samples were collected from specific sampling intervals by pounding decontaminated split spoon samplers. The sampling intervals and soil descriptions are summarized in Table 4 (Attachment 4). The split spoon sampler contents were transferred to sterilized four-ounce containers (provided by the laboratory) and placed in cool secure storage until delivered by Foth & Van Dyke to BioRenewal Technologies, Inc. in Madison, Wisconsin within 12 hours of collection. Chain-of-Custody documentation is included in Attachment 5.

Equipment decontamination procedures were followed to minimize the potential for crosscontamination between sampling locations and intervals. Split-spoon samplers and stainless steel sampling equipment were decontaminated using a high-pressure hot water wash system between uses. In addition, washed spoons were wipe-dried with new paper toweling and allowed to air dry.

The analytical results are summarized in Table 4 (Attachment 4). The mean total populations (which included petroleum product degrader and non-degrader microorganisms) in the soil samples submitted ranged from a low of 1.5E+05 Colony Forming Units (cfus) per gram of dry weight soil in Sample No. BE-CEA-05BG, to a high of 5.1+06 cfus in presumed "clean" Sample No. BE-CEA-08G.

The estimated mean degrader populations (specific to gasoline and diesel carbon sources) suggest microbial activity in response to the presence of petroleum product contamination. Total mean degrader populations ranged from 1.3E+04 for a diesel carbon source in presumed "clean" Sample No. BE-CEA-07D, to a high of 8.4E+05 for a diesel carbon source in Sample No. BE-CEA-03D. Expressed as a percentage of the mean total population, combined gasoline and diesel carbon source degrader populations ranged from a low of 2.4 percent at presumed "clean" Sample No. BE-CEA-05AG.

Although TPH laboratory analyses were not performed in concert with the CEA analyses for correlation purposes, based upon visual observations during field sampling, some of the soil samples collected from areas of assumed relatively high contamination such as locations CEA-01, CEA-02, CEA-04 and CEA-06, contained relatively lower degrader populations as a percentage of the total population (i.e., 3.5 to 6.9 percent). Although it is not possible to evaluate the actual causes with the available data, possible causes may include toxicity resulting from excessively high petroleum product contamination, varying nutrient availability and moisture conditions. In addition, the degrader populations specific to both gasoline and diesel sources, were not always estimated at each sampling location, because the choice for analyzing GRO or DRO degrader populations was based on previous analyses performed.

[32-15/10]93W044



State c Departm	of Wisco ment of a	nsin Natu	ral Res	ources	Route t	o: Solid Wast Emergency Wastewater	e Resp	onse		Haz. W Underg Water	laste Iroun Reso	d Tan urces	SOIL Form ks	BORIN 1 4400	G LOG -122	INFO	RMATI	ON 7-91
Facilit Borgerd	y/Proje ling Sit	ct N e -	ame Beloit	- 93W04	4		Τ	License/Po	<u>x</u> ermi	<u>Other:</u> t/Moni	<u>Env</u> tori	<u>. Res</u> ng Nu	<u>oonse/R</u> mber	Bori	<u>Page</u> ng Nu	<u>l of</u> mber	1 MW-1	DD
Boring WTD Env	Drilled vironmen	by tal	(Firm n Drillin	ame and g	name of	crew chief)	╡	Date Star 06/09/93	ted		Dat 06/	e Com 09/93	oleted	<u>.</u>	Dri	lling	Meth	od
R. Radt	:ke							MM/DD/YY			MM/I	DD/YY				Mud R	otary	
DNR Fac	ility W	ell	No. WI	Unique	Well No.	Common Well MW-1DD	Name	Final Sta	atic	Water	Lev	el Su	face E	levat	ion B	oreho 6.0	le Di inch	ameter es
Boring State P	Locatio	n N,	E	S/C/N		·	Lat	·	Lo	cal Gr	id L	ocati	on (if	appli	cable	·	E	
County	OT NE I	74 <u>0</u> Ro	ck		<u>1 IN, KIZ</u>	.c	D	NR County	Cod	e 54		Civil	Town/C	ity/o	r Vil City	lage of Be	w eloit	
SAMPI	F			<u> </u>	<u> </u>		ļ		U		┯┸			Soil	Prop	ertie		
No. R	Bloi Rec Coun	W ts	Depth in Feet		Soil/ and ge	rock descript ologic origin	ion for		S C S	Graph Log	We Dia	ll PII ag FII	)/ Std Pntr	Mst Cont	Liq Lim	Plas Lim	P 200	RQD/ Comm
	<u>"/</u>	- -	-	NOTES:							1			<del> </del>				
			-	No si	oil samp asing se	les collected t to 15'.	•											
		-	- 5	Much	f. to c	. sand in rec	ircu	lating										
			-	New 1	nud batc	hes mixed to	imor	ove							ŀ			
		-		ге	circulat	ion and purge	oil	y mud.						[				Mud
·			- 10		PID head nducted.	space field s	cree	ning										250 ppm
		-	-		lauettai													Core ppm
		-	- 15															
		.	- 15											ļ				
		-	-															
			- 20															
		-																
			-	ŕ														
		-	- 25	Advance	e casing	to 15′, mix	new	mud.										
		-	-								1						-	
		-	-															
			- 30 -	Mud PII oily sh	D headsp heen.	ace = 150 ppm	, sl	ight										
		-	-															
			- 35	Mix new	w mud.													
			-															
		-	-															
		<b>.</b>	- 40 -	Mud PIC	D headsp	ace = 59 ppm,	no	oily										
		-	-	Silcen.							1							
	1		• / <del>•</del>	N	• • • •													
			- 40		, neadsp	ace = 124 ppm	•											
			-															
		-	- 50															
		-	- 50															
			•															
			- 55															
		 	•	Well No	o. MW-1DI	E.O.B. @ 53.0 D installed.	<b>'</b> •											
I hereb	V certii		at the	1(9) 55-	-gallon i	mud drums.	tru	and corr	ec†	to the	 a har	t of						<u> </u>
Signatu	re	<u>y</u> (1	at the				<u>u</u>		Firm	<u>10 the</u>			<u>7_ KIIO</u>	- cuyt	•			
	PI	. /	7 4	$\mathcal{P}_{\perp}$	· -					F	Foth	& Var	Dyke					
This fo	rm is a	Itho:	-ized h		ers 114	- 147 and 162	lis.	Stats_ C	omni	etion	of t	his r	eport	is mar	dato	v.		
Penalti	es: Foi	fei	t not l	ess than	n \$10 no	r more than \$	5,00	) for each	vol	ation.	, Fi	ned r	ot les	s than	\$10	or mo	ore th	ian
\$100 or	imprise	oned	not les	ss than 14.06 L	30 days	, or both for ts.	eac	n violatio	n.	Each c	day c	of cor	tinued	viola	ation	is a	sepai	ate
JITCHSE	<u>, pursu</u>		0 33 1		-13. JLQ													

State o Departm	of Wi ent	scons of Nat	in tural	Res	Route to ources	o: Solid Wast Emergency I Wastewater	e Resp	onse	¥	Haz. W Underg Water   Other:	aste round Resour	Tanks ces	SOIL Form	BORIN 4400	G LOG -122 Page	INFO	RMATIC 7	ол 7-91
Facilit Borgerd	y/Pr ling	oject Site -	Name Belc	oit ·	- 93W044		Τ	License/Pe	ermi	t/Moni	toring	<u>Numb</u>	er	Bori	ng Nu	mber	MW-20	D
Boring WTD Env	Dril Viron	led by mental	/ (Fir Dril	m na ling	ame and name of 9	crew chief)		Date Stari 06/10/93	ted		Date 06/11	Compl /93	eted	<b>↓</b>	Dri	lling Mud P	Metho	bd
	<u> </u>																	
DNR Fac	ilit	y Well	. No.	WIL	Jnique Well No.	Common Well M MW-2DD	lame	Final Sta	atic	Water	Level	Surf	ace E	levat	ion B	oreho 6.0	le Dia inche	ameter es
Boring State P	Loca lane	tion	l,	E	S/C/N 35 T1N P126		.at	•	Lo	cal Gr	id Loc	ation N	(if	appli	cable	>	E	
County	01 10	- <u>174</u> R	lock				D	NR County	Cod	e 54	Ci	vil T	own/C	ity/o	r Vil City	lage of Be	eloit	
SAMPI	FT									<u> </u>	<b>_</b>	F	1 -	Soil	Prop	ertie		
No. R	ec Co	Blow	Dep i	th n	Soil/n and geo	ock descripti logic origin	ion for		S	Graph Log	Well Diag	PID/ FID	Std Pntr	Mst Cont	Liq Lim	Plas Lim	P 200	RQD/ Comm
	<u>-</u>		<u></u>	τ	Grass Surface	i major unit			5			┼──						
					NOTES: No soil	samples colle	ecte	d.										
					6" casir Much f	ng set to 25'.		circu-										
	1		5		lating c	frilling mud.		LIICU					[					
					New mud	batches mixed	l to	improve										
					Mud PID	ation and pur headspace fie	ge ( eld s	screening										
	1	1	1	0	conducte	d.		, set the set of the s										
			1	5	Mud PID headspa	ice = 55 ppm.												
									1									
			2	0														
1					Mix new mud, dr	'ive 15' of 6"	cas	sing.										
			 2	5														
					Mud PID headena	ce = 60 ppm	rode											
,		1			plugged - drive	casing to 25	гоца И, г	nix new										
			3	0	mud 6/11/93 a.m	•	•											
			3	5														
		1																
1					Mud PID headspa	ce = 285 ppm.												
			41 	U														
					Mix new mud.													
			/	.				ł										
			4: 	2	Mud PID headsna	ce = 20 ppm.												
			•- E(					j										
			50	"						i							1	
					<u></u>													
			 =			.O.B. @ 53.0'	•											
			J.	1	(12) 55-gal. mu	d drums.												
I hereby	/ cer	tify	that	the	information on	this form is	true	and corr	ect	to the	best	ofm	/ know	ledge				
Signatu	re 🖌		$\sim$		0			ļ	r 1 ra	ו ב	oth &	Van M	vke					
	Pn	In	$\mathcal{Q}$	Je	hurs	<u> </u>				г г		*ali L	YNC	_				
This for	m is	auth	orize	d by	Chapters 114.1	47 and 162, W	is.	Stats. C	ompl	etion	of th	is rep	ort i	s man	dator	у.		
Penaltie \$100 or	es: impr	rorte	it noi d not	t les	ss than 310 nor s than 30 days	more than \$5 or both for	,000 each	v tor each	vol n.	ation. Each d	Fine lav of	conti	: Less	than	\$10 tion	or mo	re than separate	an ate
offense,		suant	to se	s 11	4.06, Wis. Stat	S					,							

1

-----

State Depai	e of N rtmen	Wiscons t of Na	in tural	Res	Route to ources	o: Solid Wast Emergency Wastewater	e Resp	onse		Haz. W Underg Water	aste round Resour	Tanks ces	SOIL Form	BORIN 4400	G LOG -122	INFO	RMATIO	on 7-91
Facil Borge	lity/lerding	Project g Site	Name - Belo	oit	- 93w044			License/P	_X_ ermi	<u>Other:</u> t/Moni	Env. toring	<u>Respo</u> Numb	<u>nse/R</u> er	<u>epair</u>  Boriu	<u>Page</u> ng Nu	<u>1 of</u> mber	1 	 DD
Borir WTD E R. Ra	ng Dr Enviro adtke	illed b onmenta	y (Fir l Dril	m n lin	ame and name of g	crew chief)		Date Star 06/08/93 MM/DD/YY	ted		Date 06/09 MM/DD	Compl /93 /YY	eted	<b>!</b>	Dri	lling Mud Ro	Metho	od
DNR F	acil	ity Wel	l No.	WI	Unique Well No.	Common Well MW-3DD	Name	Final St	atic	Water	Level	Surf	ace E	levat	i on B	oreho 6.0	le Dia inche	ameter es
Borir State	ng Loo Plar	cation	l N,	E	S/C/N		Lat	Į	Lo	cal Gr	id Loc	ation N	(if	appli	cable	·	E	
NE 1/ Count	y :	<u>NE 1/4</u>	of Se Rock	CTI	on 35, 11N, R12	<u> </u>	D	NR County	Cod	<u>Feet</u> e 54	Ci	s vil To	own/C	ity/o	r Vil City	lage of Be	<u>w</u> eloit	
SAM	PIF		r		· · · · · · · · · · · · · · · · · · ·		I	·	l u		<b>╷</b> ╷╷		<u> </u>	Soil	Prop	erties		
No.	Rec	Blow Counts	Dep i	n t	Soil/ and geo	rock descript blogic origin	ion for		SC	Graph Log	Well Diag	PID/ FID	Std Pntr	Mst Cont	Liq Lim	Plas Lim	P 200	RQD/ Comm
	<u>, (11)</u>			<u> </u>	Concrete (appro	ox. 2.5') sur	face	•	<b> </b>									
					NOTES:	to 15/												
					Much f. to c.	sand in rec	ircu	lating										
			5		drilling mu	ud.	imen	0.40										
					recirculati	ion.	imbi.	ove	i i									
				•	Oily sheen on r	recirculating	mud	•										
			1	0								į						
			4	: ج														
Í			1	5														
			2	<b>^</b>														
			2	0	:													
1	24	14	2 	5	M. dense, browr f. GRAVEL, tr. slough).	n subangular 1 f. to m. sand	to r d (p	ounded ossibly	GP			0.0		Wet				
			•-	_														
			3	0														
				_														
2	14	11	3	5	M. dense, brown	n f. to m. sar	ndy '	f.GRAVEL,	CD			0 0		Vot				
- [	·' [	••			Mix new mud.							0.0		ACL				
			,	•														
			4	U														
			•-															
			4	5	M dense brown	f gravelly	f	to c										
3	8	22			SAND, tr. silt.	Advance cas	ing	to 15'.	s₩			0.0		Wet				
			5	0	6-9-93 a.mMix	new mud. apo	orox.	10 gal.										
					oily water coll	ected at init	iat	ion of										
					recirculation.													
	[		5	5		.O.B. a 53.0'	•										ł	
					Well No. MW-3DD	installed.												
I her	eby c	ertify		the	(10) 55-gal. mu	d drums. this form is	true	and core	ect	to the	best	of m	kno-	ledge				<u> </u>
Signa	ture	$\sim$							Firm	n		<u></u>			·			
-		1/ml		7 7	Plan					F	oth &	Van D	yke					
This	form	is auth	orize	d by	Chapters 114 1	47 and 162	lis-	Stats_ (		etion	of thi	s rer	ort i	s man	dator	·v.		
Penal	ties:	Forfe	it no	tle	ess than \$10 nor	more than \$5	,000	) for each	n vol	lation.	Fine	d not	less	than	\$10	or mo	re th	an
\$100	or im	prisone	d not	les	s than 30 days,	or both for	eacl	n violatio	m.	Each d	lay of	conti	nued	viola	tion	is a	separ	ate
orien	<u>se, p</u>	<u>ui suant</u>	<u>S</u>	<u> </u>	HIS. SLAT	<u>.                                    </u>												

State Depa	e of N rtmen	Wiscons t of Na <sup>.</sup>	in tural Re	Route t sources	o: Solid Wast Emergency Wastewater	e Resp	onse		Haz. W Underg Water	aste round Resour	Tanks ces	SOIL Form	BOR I N 4400	G LOG -122	INFO	RMATI	ON 7-91
Faci Borg	lity/I erding	Project g Site	Name Beloit	- 93W044	<u> </u>		License/P	<u>x</u> ermi	<u>Other:</u> t/Moni	<u>Env.</u> toring	<u>Respo</u> Numb	<u>nse/R</u> er	epair  Boriu	Page ng Nu	<u>1 of</u> mber	<u>1</u> MW-1	 1s
Bori WTD I R. Ra	ng Dr Envire adtke	illed by onmenta	y (Firm ) L Drilli	name and name of ng	crew chief)		Date Star 06/03/93 MM/DD/YY	ted		Date 06/03 MM/DD	Compl /93 /YY	eted	<b>!</b>	Dri Hol	lling low-Si	Meth	od uger
DNR I	Facil	ity Well	L No. WI	Unique Well No.	Common Well   MW-11S	Name	Final St	atic	Water	Level	Surf	ace E	levat	ion B	oreho 8.0	le Dia inch	ameter
Borin	ng Loo	cation	<b>_</b>		<u> </u>			Lo	cal Gr	id Loc	ation	(if	applic	cable	)		
NE_1	<u>/4_of</u>	NE 1/4	of Sect	on 35, T1N, R12		Long		L_	Feet		<u>s</u>		Feet	<u>t</u>		<u>w</u>	<u> </u>
Count	ty	F	Rock			DI	NR County	Cod	e 54	C1	יון די	own/C	ity/or	city	lage of Be	eloit	
SAN	IPLE	- Diau	Danah	Coil (				U	Cash				Soil	Prop	erties		
No.	Rec (in)	Counts	in Feet	and geo	ock descript blogic origin <u>major_unit_</u>	for		C S	Log	Diag	FID	Pntr	Cont	Lim	Plas Lim	200	Comm
				Concrete (6") s	idewalk.						0.0		Not				
1	7	12		FILE, Drown T.	com, sand, i		.gravet.	hf			0.0		mst				
2	24	2	 5 	Fill, brown f. V. soft, black	sandy f. grav	<u>vel.</u>	<u>5.2'</u>	ml/			0.0		V. mst- Wet				Wet a
-				sandy SILT, tr. to v. soft dk.	wood fragmer gray SILT.	nts,	grading	ol									~6'.
3	12	28	10 	M. dense, gray	f. gravelly f	f. SA	ND.	sp			0.0		Wet				i
4	8	112/	15 	V. dense, as at	oove, subangul	lar t	:0				0.0		Wet				
		10"	 	rounded, f. gra E	ivel. .0.8. a 17.0'	'•											i
			20 	Well No. MW-119 (1) 55-gal. cu1	installed. tings drum.												
			25														
ł								Ì									
			30														
				1													
														1			
	Í																
1 her	eby c	ertify	 that the	information on	this form is	true	and corr	ect	to the	best	of my	/ know	ledge				
Signa	ture	P		free				Firm	n F	oth &	Van D	)yke					
This	form	is auth	orized b	y Chapters 114.1	47 and 162, W	lis.	Stats. C	:omp	etion	of thi	s rep	ort i	s man	dator	у.		
Penal \$100	ties: or im	Forfe prisone	it not l d not le	ess than \$10 nor ss than 30 days,	more than \$5 or both for	,000 each	for each violatic	vol	ation. Each d	Fine lay of	d not conti	: less inued	than viola	\$10 tion	or mo is a	<b>re th</b> separ	an ate
otten	se, p	ursuant	το ss 1	14.00, Wis. Stat	s	-	<u></u>										

Stat Depa	e of rtmen	Wiscons t of Na	in tural R	esources	Route t	o: Solid Wast Emergency H Wastewater	e Resp	onse	v	Haz. Wa Undergi Water I	aste round Resour	Tanks ces	SOIL Form	BORIN 4400	G LOG -122	INFO	RMATIC 7	on 7-91
Faci Borge	ity/ erdin	Project g Site	Name - Beloi	t - 93W04	44			License/Po	ermi	t/Monii	toring	Numb	er	Bori	ng Nu	mber		ID
Bori WTD I R. Ra	ng Dr Envir adtke	illed b onmenta	y (Firm l Drill	name an ing	d name of	crew chief)		Date Star 06/03/93 MM/DD/YY	ed		Date 06/03 MM/DD	Compl /93 /YY	eted	<u>.                                    </u>	Dri	lling Mud Ro	Methc otary	od
DNR 1	acil	ity Wel	l No. W	I Unique	Well No.	Common Well MW-11D	Name	Final Sta	tic	Water	Level	Surf	ace E	levati	ion B	oreho 6.0	le Dia inche	ameter es
Borin State	ng Lo Pla	cation	N,	E S/C/N			.at		Lo	cal Gri	id Loc	<u>l</u> ation N	(if a	applio	cable	» <u> </u>	E	<u>,.                                    </u>
Count	<u>ч от</u> су	<u>NE 174</u>	<u>or sec</u> Rock	<u>tion 35,</u>	<u>11N, R12</u>		<u>D</u>	NR County	Cod	<u>Feet</u> e 54	Ci	<u>vil T</u>	own/C	ity/o	r Vil City	lage of Be	<u>w</u>	
SAN	IPI F					······			<u> </u>	<b></b> _		т—		Soil	Prop	erties	<u> </u>	
No.	Rec	Blow Counts	Dept in East	h	Soil/ and geo	rock descripti blogic origin	ion for		S C S	Graph Log	Well Diag	PID/ FID	Std Pntr	Mst Cont	Liq Lim	Plas Lim	P 200	RQD/ Comm
	<u> </u>			Concre	ete (6") s	sidewalk.		· · · · ·	<u> </u>			<u> </u>						
			   5	Notes See desc 6" d	: Boring Lo cription f casing set	og MW-11S for to 17.0'. t to 5'.	soi	ι										
			10  															
			  15															
1	18	25	20  	M. der silt, gravel	nse, brown tr. f. su l.	a v.f. to c. S Ubangular to s	AND, ubro	, tr. bunded	s₩			104		Wet				
,	7	2/	 25	Ac abo		abbl as						201		Unt				
2	•	24	••		E.0	0.B. @ 27.0'.			3			201		wet				
			30 	Well M	lo. MW-11D 5-gal. muc	installed. Idrums.												
					-	-												
· }			  															
i			  															
I her	eby_	ertify	that th	inform	nation on	this form is	true	and corr	ect	to the	best	of my	know	ledge	·		ł	
Signa	ture	10	mh		Pan				Firm	n F	oth &	Van D	yke					
This Penal \$100	form ties: or im	is auth Forfe	orized it not	by Chapt less that	ers 114.1 an \$10 nor 30 days	47 and 162, W more than \$5 or both for	is. ,000	Stats. C ) for each	ompl vol	etion ation.	of thi Fine	d not	ort i less	s man than	dator \$10	'Y. or mo is ≏	re th	an
offen	se, r	oursuant	to ss	114.06,	Wis. Stat	s	,											

State of Departmen	Wiscons nt of Na	in tural I	Reso	ources	Route t	o: Solid Wast Emergency Wastewater	e Resp	onse	v	Haz. W Underg Water	laste rour Resc	d 1 burc	anks es	SOIL   Form	BORIN 4400	G LOG -122	INFO	RMATIC	on 7-91
Facility/ Borgerdin	Project g Site	Name - Belo	it -	93W044	,	<u> </u>	1	License/Po	ermi	t/Moni	tori	ng	Numb	nse <u>/k</u> er	Bori	ng Nu	mber	MW-11	IDD
Boring Dr WTD Envir R. Radtke	illed b onmenta	y (Firn l Dril	n na ling	me and	name of	crew chief)		Date Star 06/10/93 MM/DD/YY	ted		Dat 06/	e C 10/	omple 93	eted	<b>!</b>	Dri	lling Mud R	Metho	bd
K. ROULKE						C		1				····				[			
DNR Facil	ity Wel	L NO.	1 0	nique W	ell No.	Common Well MW-11DD	Name	Final Sta	atic	Water	Lev	ει	Surfa	ace E	levat	IONB	oreho 6.0	inche	ameter es
Boring Lo State Pla	cation ne	N,	E	S/C/N	11 012		Lat		LO	cal Gr	id L	oca _ N	tion	(if a	appli East	cable	) 	E	
County	NL 1/4	Rock		<u>11 33, 1</u>			Di	NR County	Cod	e 54		Civ	il To	own/C	ity/o	r Vil City	lage of Be	eloit	
SAMPLE	1	r	<b>—</b> г				I		U	1	┯┺			-	Soil	Prop	erties		
No. Rec	Blow Counts	Dept ir	:h   1		Soil/ and geo	rock descript	ion for		SC	Graph Log	We Di	ll ag	PID/ FID	Std Pntr	Mst Cont	Liq Lim	Plas Lim	P 200	RQD/ Comm
<u> </u>			-	Concret	e (6") :	idewalk.			>		$\vdash$	-							
			ľ	NOTES:	oring L	nas MW-115 and	H NU	- 11D											
				for s	oil des	ription to 2	7.0'	•											
		5		6" ca No so	sing set il sampi	to 15'. les collected													
				Much	f. to c	, sand in rec	ircu	lating											
		   10		New m	ud batch	les mixed to i	impro	ove											
				circu	lation.														
				Mud P condu	ID heads	space field so	cree	ning											
		15	;	•••••==															
		20								Į									
		25																	
								ļ											
		30		New mud	mixed.													1	
	ł																		
		35 																	
	]																		
		 40		Mud PID	headspa	ce = 40 pom.					ſ							[	
			ľ		meanope														
ļ	]																		
		45	N	New mud	mixed.			(			[								
		50	۲ <b>۲</b>	Mud PID	headspa	ce = 3 ppm.					1					1		1	
			-		E.O.B.	a 53.0'.													
			5	Well No	. MW-110	D installed.													
ľ		55 		(8) 55-9 (1) 55-9	gal. muc gal. cut	tings drum.													
	<u> </u>		<u> </u>								Ļ	Ļ			<u> </u>				
I hereby of Signature	<u>certify</u>	that t	<u>he i</u>	informa	<u>tion_on</u>	this form is	true	and corr	ect Firm	<u>to the</u> n	e be:	st_	of my	KNOW	ledge	•			
	1,	0	J	2	_					 F	Foth	& 1	/an D	yke					
This form	<u>nha</u>	<u>L</u>		Chapter	rs 11/ 1	47 and 142 1	lie	State C	0000	ation	of	thi		ort i	c mar	dator	<u></u>		
Penalties	: Forfe	eit not	les	ss than	\$10 nor	more than \$5	,000	) for each	vol	ation.	. F	ine	d not	less	than	\$10	or mo	re th	an
\$100 or in	mprisone	ed not	less	s than :	30 days,	or both for	each	i violatio	n.	Each o	day (	of	conti	nued	viola	tion	is a	separ	ate
ULLEHSE,	Jui Sudili	. 10 35	114	<u></u> W	Ja. oldi	J.	-												

!

State Depai	e of rtmen	Wiscons t of Na	in tural	Res	Route to ources	Solid Wast Emergency   Wastewater	e Resp	oonse	v	Haz. W Underg Water	laste roun Reso	d Tar urces	SOI Fo Iks	BOR rm 441	ING L	OG I 2	NFOR	RMAT I	0N 7-91
Faci Borge	lity/ erdin	Project g Site	Name - Bel	oit	- 93w044		T	License/P	ermi	t/Moni	tori	ng Nu	mber	Bo	ring	<u>ge</u> Numb	er	SB-1	2
Borin WTD E	ng Dr Envir	illed b onmenta	y (Fi l Dri	rm n llin	ame and name of 9	crew chief)		Date Star 06/01/93 MM/DD/YY	ted		Dat 06/	e Con 01/93 DD/YY	plete	<u> </u>	D	rill Mu	ing d Ro	Meth	od
DNR I	acil	ity Wel	l No.		Unique Well No.	Common Well I	Name	Final St	atic	Water	Lev		rtace	Eleva	ation	Bor	ehol 4.0	inch	ameter es
Borir State	ng Lo Plai	cation ne	N,		S/C/N		at		Lo	cal Gr	id L	ocáti - N	on (i	f appl	icab	le)	_	E	
Count	ty	<u>NC 174</u>	Rock		<u> </u>	·	D	NR County	Cod	e 54	T	Civil	Town,	City/	or V Ci	illa ty o	ge f Be	eloit	
SAN		1	r		Γ				U		┯┻				l Pr	oper	ties		
No.	Rec	Blow Counts	De	pth in	Soil/r and geo	ock descripti logic origin	ion for		S C	Graph Log	We Di	ll PI ag FI	D/Sto D Pn	Mst TCor	t Li	q P m L	las im	P 200	RQD/ Comm
	<u>(1n)</u>		Fee	et	Concrete (10").	major unit			S		-			-			-		
				F	Notes: Bentonite muc	I rotary drill	ing	w/											Wet a
				2	6" casing set	to 5'. es collected.	ing.												~('.
				10	Much f. to c.	sand in reci	ircu	lating											
				10	Occasional oi	ly sheen visi	ble	in											
					drilling mud.	-						2							1
			·	15															
	l																		
			2	20															
				ne l	Hydropunch II w	ater samples:	:												
			'	25															
						012-01 4-153	0												
01			3	50	(Sample Interva	1 28-30').	.0.												
02					Sample No. BE-S	B12-02, t=163	50.												
					(Sample Interva	( 31.3-33.37)	-												
			3	55		012-07 A-175	•												
05					Sample No. BE-S (Sample Interva	l 36-38').	υ.												
			/																
04			"		Sample No. BE-S	B12-04, t=185	0.								1				
					(Sample Interva	l 41-43').													
	1		4	5															
05					Sample No. BE-S (Sample Interva	B12-05, t-195 l 46-48′).	5.												
			5	50	E.	0.B. a 48.0'.													
			 		Borehole abando slurry.	ned w/bentoni	te-	sand					1				ĺ		
			5 	55	(2) 55-gal. mud	drums.													
															1				
I her	eby d	ertify	that	the	information on	this form is	tru	e and corr	ect	to the	e bes	st of	my kr	owled	ge.			↓	
Signa	ture	10	/	0	P.P.				Firm	n I	Foth	& Va	n Dyke						
This Penal	form ties:	Is auti Forfe	norize eit no	t le	Chapters 114.7 ess than \$10 nor	47 and 162, W more than \$5	is. ,00	Stats. C O for each	ompl vol	etion ation	of t	this ined	report not le	is m ss th	andat an \$'	ory. O or	mo	re th	an
\$100 offe <u>n</u>	or in <u>se, r</u>	mprisone oursuant	ed not t <u>tos</u>	: les <u>is 11</u>	ss than 30 days, 4.06, WisStat	or both for s.	eac	h violatic	n.	Each	day o	of co	ntinue	d vio	latio	n is	5 a :	separ	ate

State Depa	e of N rtmen	Wiscons t of Na	in tura	al Res	ources	Route t	o: Solid Wast Emergency Wastewater	e Resp	onse	v	Haz. Under Water	Wasi grou Res	te und sour	Tanks ces	SOIL   Form	BOR I N 4400	G LOG -122	INFO	RMATIC 7	)N 7-91
Faci Borg	lity/l erdin	Project g Site	Nan - Be	ne eloit	- 93W04	4			License/P	<u>x</u> ermi	t/Mon	<u>: El</u> itol	nv. ring	Numb	n <u>se/R</u> er	Bori	ng Nu	<u>1 of</u> mber	sB-13	5
Borin WTD I R. Ra	ng Dr Envire	illed b onmenta	y (F l Dr	irm n illin	ame and g	name of	crew chief)		Date Star 06/02/93 MM/DD/YY	ted		Da Oa Ma	ate ( 6/02,	Compl /93 /YY	eted	ł	Dri	lling Mud Ra	Metho	d
									1				.,			-				
DNR I	Facil	ity Wel	l No		Unique	Well No.	Common Well	Name	Final St	atic	Wate	r Le	evel	Surt	ace E	levat		orehol 4.0	inche	meter S
Bori	ng Lo	cation			0 (0 (1)		• <u> </u>			Lo	cal G	rid	Loca	ation	(if a	appli	cable	)	-	
NE 1	e Pla /4_of	NE 1/4	∾, _ 	Secti	on 35,	T1N, R12	E	Lai Long			Fee	t		S		Feet	t		<u>v</u>	
Count	ty		Rock	c				D	NR County	Cod	e 54		Civ	vil To	own/C	ity/o	r Vil City	lage of Be	eloit	
SA	IPLE	Ĺ			l			ł		U		Т	I			Soil	Prop	erties	3	
No.	Rec	Blow Counts		in		Soil/ and geo	rock descript plogic origin maior unit	ion for		S C S	Grapi Log	h  4   C	Well Diag	PID/ FID	Std Pntr	Mst Cont	Liq Lim	Plas Lim	Р 200	RQD/ Comm
			'	<u>eet</u>	Concre	te (6") :	sidewalk.													
				5	Notes: Bent Hydr	onite muk opunch II	d rotary dril I water sampl	ling ing.	w/											
					6" c	asing set	t to 8'.													
					NO S Much	oil samp: f.toc.	les collected . sand in rec	ircu	lating		1								ł	
				10	mud.															
				15	1					8	•									
																			ł	
				20																
					Hydrop	unch II i	water samples	:												
				25	0			· ^												
01					(Sample)	NO. BE-: e Interva	at $27-29'$ ).	¥U.												
				30																
02					Sample	No. BE-S	SB13-02, t=13	20.			[									
					Compr	e Interva	1 52-54-7.				]									
				35																
03					Sample	No. BE-S	5815-03, t=143	55.												
					Comple	- 11161 40						1								
<u>,</u>				40			017-0/ +-4F	/ n												
U4					(Samole	NO. BE-S e Interva	al 42-441)	+U.			l									
				_	• <b>-</b> •															
OF				45	Commi -		017-05 +- 17	15												
υS					(Samol	au. sc-: e interva	al 47-49').	. ננ												
				50	Ronaha	E.	0.B. 2 49.01	ito-	and									j		
					slurry		ALCO W/ Dention	1.6-1												
				55	(2) 55	-gal. muc	idrums.													
			<u> </u>		1		Ab 2	<b>A</b>			<b></b>	1								
<u>i her</u> Signa	ture	ertify	τηα	τ the	INTORM	$\Delta$	THIS TOPM 15	τιμ	and corr	<u>ect</u> Firr	<u>το th</u> n	ie b	est	OT M	KNOW	ledge	•	·		
Jugine	.ule	$\cap$	)		. 14	<u>り</u>	_				•	Fot	:h &	Van D	yke					
<del></del>		14	L.	Ļ		ann														
This Penal \$100	form ties:	is auth Forfe	iori eit	zed by not le	/ Chapto ess than	ers 114.1 n <b>\$10 n</b> or 30 dave	more than \$	115. 5,000	stats. ( ) for each ) violatio	omp vol	letior latior Fach	) of ). day	thi Fine	s rep ed not	ort i less	s man than viole	dator \$10 tion	'Y. or mo is ≏	re th	an ate
offer	se. r	ursuant	t to	ss 11	4.06.	lis. Stat	S.						5.	201101				u		

### State of Wisconsin Department of Natural Resources

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION	(2) FACILITY NAME
Well/Drillhole/Borehole County	Original Well Owner (If Known)
Location Borgerding Site Rock	
X E	Present Well Owner
<u>NE 1/4 of NE 1/4 of Sec. 35 ; T. 1 N; R. 12 W</u>	City of Beloit
(If applicable)	Street or Route
Gov't Lot Grid Number	100 State Street
Grid Location	City, State, Zip Code
ft. N. S., ft. E. W.	Beloit, Wisconsin 53511
Civil Town Name	Facility Well No. and/or Name (If Applicable) WI Unique Well No.
	SB-13
Street Address of Well	Reason For Abandonment
434 Portland Avenue ROW	Investigative Only
City, Village	Date of Abandonment
Beloit, Wisconsin	06/02/93
WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Original Well/Drillhole/Borehole Construction Completed On	(4) Depth to Water (Feet) 6
(Data) = 0.6 / 0.2 / 0.2	Pump & Piping Removed? Yes No X Not Applicable
(Date)00/02/93	Liner(s) Removed? Yes No V Not Applicable
Monitoring Well Construction Report Available?	Screen Removed?
	Casing Left in Place?
	If No. Explain No casing - mud rotary drilling
	<u>no cubing and rotary drifting</u>
E Borenole	Was Casing Cut Off Below Surface?
Construction Type	Did Sealing Material Rise to Surface? Ves No
E Drilled D Diver (Senderic) Dug	Did Material Settle After 24 Hours? VI Yes No
Driven (Sandpoint)	If Yes, Was Hole Retormed?
Uther (Specify)	
Franction Terror	(5) Required Method of Placing Sealing Material
Formation Type:	Conductor Pipe-Gravity Conductor Pipe-Pumped
K Unconsolidated Formation Bedrock	Dump Bailer Other (Explain)
Total Well Depth (ft.) 49 Gasing Diameter (ins.) 4	(6) Sealing Materials For monitoring wells and
(From groundsurface)	Neat Cement Grout monitoring well boreholes only
	Sand-Cement (Concrete) Grout
Casing Depth (ft.)	Concrete   Bentonite Pellets
	Clay-Sand Slurry Granular Bentonite
Was Well Annular Space Grouted?	Bentonite-Sand Slurry
If Yes To What Depth? Feet	Chipped Bentonite
(7) Sealing Material Used	From (Et) To (Et) Sacks Sealant Mix Ratio or Mud Weight
	rion (rt.) io (rt.) or Volume
	Surface 3
Concrete	0.5 0.1 ft
	3
3/8 in. Bentonite Chips	0.5 2.0 0.3 ft
Sand	3 Approx. 13% bentonite
Granular & Bentonite Powder/Formation Slurry	2.0 49 4.1 ft by wt.
	Approx. 10% sand by vol
(8) Comments: Used drilling mud (approx. 9% bentoni	ite by wt.) and thickened w/50 lbs. granular
bentonite (approx. 13% by wt.) for abandonment.	topped up w/bentonite chips and concrete.
(9) Name of Person or Firm Doing Sealing Work	(10) FOR DNR OR COUNTY USE ONLY
WID Environmental Drilling, Inc.	Date Received/Inspected District/County
Signature of Person Doing Work Date Signed	
M 1 Wat - 06/30/93	Reviewer/Inspector
Street or Route Telephone Number	
P. O. Box 109 (715) 359-7090	Follow-up Necessary
City, State, Zip Code	, she up she and
Schofield, Wisconsin 54476-0109	
	i de la constante de

#### REASONS FOR WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Wis. Adm. Code (NR 111, NR 112, & NR 141) requires well owners to permanently abandon unused wells/drillholes/boreholes on their property. The reasons for this requirement are:

- To prevent contamination from entering the well/drillhole/borehole at the surface or through corroded well casings and moving downward to an aquifer used by other wells, and
- To prevent vertical movement of water between different geologic formations of differing water quality.

Most licensed well drillers and pump installers have the equipment, knowledge and experience needed to permanently abandon wells/drillholes/boreholes. We recommend that these licensed contractors be hired to do this work.

#### PROCEDURE

- 1. Remove any pump, pump piping, debris or other obstacles that could interfere with the sealing operation. In most situations the well casing should be left in place. When the casing is removed it should be pulled during the abandonment process so the drillhole does not collapse.
- 2. The sealing material must be placed with a conductor (tremie) pipe either by pumping or by gravity, (except when approved chipped bentonite is used according to department instructions).
- 3. The bottom end of the conductor pipe must initially reach the bottom of the well and must be kept submerged in the sealing material as it is placed.
- 4. Unconsolidated formation wells should be sealed with the materials listed in item (6) on the form. When clay or sodium benonite slurry is used to fill wells, the top 20 feet must be sealed with neat cement grout, concrete grout, concrete, or bentonite chips. Bedrock formation wells should be filled with neat cement grout, concrete grout or concrete. Monitoring wells must be filled with the materials specified by NR 141, Wis. Adm. Code.
- 5. Fill the entire well column from the bottom to the top with the required sealing material.
- 6. Any standing water in the hole will be forced out by the concrete or cement grout (it is more dense) resulting in an entire column of cement to seal the well. The sealing material must flow at the surface with the same consistency as it is being pumped in.
- 7. The casing may be cut off several feet below the ground surface.
- 8. To abandon flowing wells, the flow must be stopped or greatly reduced. This can be accomplished by extending the well casing to an elevation higher than the artesian head, or inserting a seal or packer in the casing. Once the flow has been stopped or reduced, the well can be abandoned the same as other wells.
- 9. For a municipal well, information regarding drillhole diameter and depths and geologic formations should be submitted on a separate sheet.
- 10. For use of alternative methods and materials, especially for deep, multi-formation wells contact DNR.

#### TEMPORARY ABANDONMENT

- A well may be temporarily abandoned if it is planned to place the well back in service within a time specified by administrative rule.
- Temporary abandonment is accomplished by threading or welding a watertight cover to the casing or by filling the well with a clean clay slurry and then placing a cover over the well.
- If the well is not placed back into service, it should be permanently abandoned unless a written extension is granted by DNR.

#### REPORT TO DNR

The Well/Drillhole/Borehole Abandonment Form 3300-5B, on the front, must be completed by the owner (or agent) and submitted to the appropriate DNR district office or delegated county office within 30 days.

This form is authorized by chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10.00 nor more than \$5,000.00 for each violation. Fined not less than \$10.00 or more than \$100.00 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss. 144.99 and 162.06, Wis. Stats.

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(I) GENERAL INFORMATION	(2) FACILI	TY NAME		
Well/Drillhole/Borehole County	Original	l Well Owne	r (If Known)	
Location Borgerding Site Rock	Dresent	Wall Ourses		·····
NE 1/4 of NE 1/4 of Sec. $35 \cdot T$ 1 N·R 12	Irsul	a Borgei	ding Estat	te
(lf amlicable)	Street o	r Route	ding hota	
Gov't Lot Grid Number	1000	East Dea	in Road	
Grid Location	City, St	tate, Zip Coo	le	
ftNS.,ftEW.	Milwa	ukee, Wi	sconsin	
Civil Town Name	Facility	Well No. an	d/or Name (If A	pplicable) WI Unique Well No.
Server Address of Wall	SB-12	For Abando	nment	
435 Portland Avenue	Inves	tigative	e Only	
City, Village	Date of	Abandonme	nt	
Beloit, Wisconsin	06/01	./93		
WELL/DRILLHOLE/BOREHOLE INFORMATION				
(3) Original Well/Drillhole/Borehole Construction Completed On	(4) Depth to	o Water (Fee	u) <u>7</u>	
(Date) 06/01/93	Pump &	2 Piping Rem	oved?	es No X Not Applicable
Construction Report Available?	Screen 1	Removed?		Yes No X Not Applicable
Monitoring Well Construction Report Available?	Casing	Left in Place	2 23	(es IXI No
$\square$ Drillhole	If No, E	Explain No	casing -	mud rotary drilling
X Borehole				
—	Was Car	sing Cut Off	Below Surface?	
Construction Type:	Did Sea	ling Material	Rise to Surface	? X Yes No
Drilled Driven (Sandpoint)	Did Mai	Was Hole I	etopped?	
Uther (Specify)	II 105			
Formation Type:	(5) Required	d Method of	Placing Sealing	Material
X Unconsolidated Formation Bedrock		ductor Pipe-0	$ravity \mathbf{X} \mathbf{C}$	Conductor Pipe-Pumped
Total HEH Dooth (6) (18 Casing Diameter (ins) 4	(6) Sealing	Materials		For monitoring wells and
(From groundsurface)	Neat	Cement Gro	ut	monitoring well boreholes only
(	Sanc	l-Cement (Co	oncrete) Grout	<b>.</b> .
Casing Depth (ft.)		crete		Bentonite Pellets
		-Sand Slurry	_	Granular Bentonite
Was Well Annular Space Grouted? Yes No Unknown	X Bent	tonite-Sand S	Slurry	
If Yes, 10 what Depth? Feet				· · · · · · · · · · · · · · · · · · ·
(7) Sealing Material Used	From (Ft.)	To (Et.)	No. Yards, Sacks Sealant	Mix Ratio or Mud Weight
			or Volume	
Concrete	Surface	0.5	0.1 $ft^3$	
			2	
3/8 in. Bentonite Chips	0.5	3.5	0.6 ft <sup>3</sup>	
Sand			3	Approx. 13% bentonite
Granular & Bentonite Powder/Formation Slurry	3.5	48	3.9 ft	by wt.
				Approx. 10% sand by vol.
(8) Comments: Used drilling mud (approx 9% benton	ito by t	t ) and	thickond	$\frac{1}{1}$
bentonite (approx. 13% bentonite by wt.) for aba	ndonment	toppe	1 up w/ben	tonite chips and concrete
(9) Name of Person or Firm Doing Sealing Work	(10)	FOR	DNR OR CO	UNTY USE ONLY
WTH Environmental Drilling, Inc.	Date	Received/Ins	pected	District/County
Signature of Person Doing Work Date Signed				
And Celler 06/30/93	Revi	ewer/inspect	or	
$\frac{1}{2} = \frac{1}{2} = \frac{1}$	Ean-	w m Nama-	ani	
City, State, Zip Code	LOHO	-up ivecess	ау 	
Schofield, Wisconsin 54476-0109	1			

### REASONS FOR WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Wis. Adm. Code (NR 111, NR 112, & NR 141) requires well owners to permanently abandon unused wells/drillholes/boreholes on their property. The reasons for this requirement are:

- To prevent contamination from entering the well/drillhole/borehole at the surface or through corroded well casings and moving downward to an aquifer used by other wells, and
- To prevent vertical movement of water between different geologic formations of differing water quality.

Most licensed well drillers and pump installers have the equipment, knowledge and experience needed to permanently abandon wells/drillholes/boreholes. We recommend that these licensed contractors be hired to do this work.

### PROCEDURE

- 1. Remove any pump, pump piping, debris or other obstacles that could interfere with the sealing operation. In most situations the well casing should be left in place. When the casing is removed it should be pulled during the abandonment process so the drillhole does not collapse.
- 2. The sealing material must be placed with a conductor (tremie) pipe either by pumping or by gravity, (except when approved chipped bentonite is used according to department instructions).
- 3. The bottom end of the conductor pipe must initially reach the bottom of the well and must be kept submerged in the sealing material as it is placed.
- 4. Unconsolidated formation wells should be sealed with the materials listed in item (6) on the form. When clay or sodium benonite slurry is used to fill wells, the top 20 feet must be sealed with neat cement grout, concrete grout, concrete, or bentonite chips. Bedrock formation wells should be filled with neat cement grout, concrete grout or concrete. Monitoring wells must be filled with the materials specified by NR 141, Wis. Adm. Code.
- 5. Fill the entire well column from the bottom to the top with the required sealing material.
- 6. Any standing water in the hole will be forced out by the concrete or cement grout (it is more dense) resulting in an entire column of cement to seal the well. The scaling material must flow at the surface with the same consistency as it is being pumped in.
- 7. The casing may be cut off several feet below the ground surface.
- 8. To abandon flowing wells, the flow must be stopped or greatly reduced. This can be accomplished by extending the well casing to an elevation higher than the artesian head, or inserting a seal or packer in the casing. Once the flow has been stopped or reduced, the well can be abandoned the same as other wells.
- 9. For a municipal well, information regarding drillhole diameter and depths and geologic formations should be submitted on a separate sheet.
- 10. For use of alternative methods and materials, especially for deep, multi-formation wells contact DNR.

. . . . . . . . . . . . .

#### TEMPORARY ABANDONMENT

- Temporary abandonment is accomplished by threading or welding a watertight cover to the casing or by filling the well with a clean clay slurry and then placing a cover over the well.
- If the well is not placed back into service, it should be permanently abandoned unless a written extension is granted by DNR.

REPORT TO DNR

The Well/Drillhole/Borehole Abandonment Form 3300-5B, on the front, must be completed by the owner (or agent) and submitted to the appropriate DNR district office or delegated county office within 30 days.

This form is authorized by chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10.00 nor more than \$5,000.00 for each violation. Fined not less than \$10.00 or more than \$100.00 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss. 144.99 and 162.06, Wis. Stats.

د. جماعهم میردها، میردند از از از از از ا .

# Attachment 4

# Tables

- 1 Hydropunch Groundwater Sampling Results
- 2 Drummed Waste Summary
- 3 TCLP Waste Characterization Soil Sampling Analytical Results
- 4 Comparative Enumeration Assay Soil Sampling Summary

# Hydropunch Groundwater Sampling Results Borgerding Estate Site June, 1993

Soil Doring	Crowndwator	Sampling		Concentrat	ion (ug/l)	
No.	Sample ID No.	Interval (ft.)	Benzene	Ethylbenzene	Toluene	Xylenes
SB-12	BE-SB12-01	28-30	4.9	ND (1.0)	ND (1.0)	ND (3.0)
SB-12	BE-SB12-02	31.5-33.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)
SB-12	BE-SB12-03	36-38	19	1.7	2.8	3.8
SB-12	BE-SB12-04	41-43	1.8	ND (1.0)	ND (1.0)	ND (3.0)
SB-12	BE-SB12-05	46-48	7.5	ND (1.0)	ND (1.0)	ND (3.0)
SB-13	BE-SB13-01	27-29	290	ND (5.0)	ND (5.0)	ND (15)
SB-13	BE-SB13-02	32-34	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)
SB-13	BE-SB13-03	37-39	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)
SB-13	BE-SB13-04	42-44	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)
SB-13	BE-SB13-05	47-49	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)

ND = Analyte not detected at or above the detection limit in parenthesis.

ug/l = Micrograms per liter

Boring/Well No.	Waste Type				
	Soil Cuttings (drums)	Drilling Mud (drums)	Development Water (drums)		
MW-1DD		9	3		
MW-2DD		12	3		
MW-3DD		10	2		
MW-11S	1		*		
MW-11D		4	2		
MW-11DD	1	8	3		
SB-12		2			
SB-13		2			
Totals	2	47	13		

# Drummed Waste Summary Borgerding Estate Site June, 1993

\* Small quantity of development water from well MW-11S was combined with Well No. MW-11D drum.

# TCLP Waste Characterization Soil Sample Results Borgerding Estate Site June 1993

		Sampling Location					
Analytical Parameters	Units	BE-WC-01	BE-WC-02	BE-WC-03	<b>BE-W</b> C-04		
<u> </u>	Volati	le Organic Analysis	(EPA Method 8240	)			
Vinyl Chloride	mg/l	<0.10	<0.10	<0.10	<0.10		
1,1-Dichloroethene	mg/l	<0.10	<0.10	<0.10	<0.10		
Chloroform	mg/l	<0.10	<0.10	<0.10	<0.10		
1,2-Dichloroethane	mg/l	<0.10	<0.10	<0.10	<0.10		
Methyl Ethyl Ketone	mg/l	<0.20	<0.20	<0.20	<0.20		
Carbon Tetrachloride	mg/l	<0.10	<0.10	<0.10	<0.10		
Trichloroethene	mg/l	<0.10	<0.10	<0.10	<0.10		
Benzene	mg/l	<0.10	<0.10	<0.10	<0.10		
Tetrachloroethene	mg/l	<0.10	<0.10	<0.10	<0.10		
Chlorobenzene	mg/l	<0.10	<0.10	<0.10	<0.10		
1,4-Dichlorobenzene	mg/l	<0.10	<0.10	<0.10	<0.10		
Semivolatile Organic Analysis (EPA Method 8270)							
Pyridine	mg/l	< 0.05	<0.05	< 0.05	<0.05		
o-Cresol	mg/l	< 0.05	< 0.05	<0.05	<0.05		
m,p-Cresol	mg/l	< 0.05	< 0.05	< 0.05	<0.05		

[32-15/A3S10/10]93W044

Prepared by: BMK1 Checked by: RJK2 ----

# Table 3, TCLP Waste Characterization Soil Sample Results (Continued)

			Sampling	Location	
Analytical Parameters	Units	BE-WC-01	BE-WC-02	BE-WC-03	BE-WC-04
Hexachloroethane	mg/l	< 0.05	<0.05	< 0.05	<0.05
Nitrobenzene	mg/l	<0.05	<0.05	<0.05	<0.05
Hexachlorobutadiene	mg/l	<0.05	<0.05	<0.05	<0.05
2,4,6-Trichlorophenol	mg/l	< 0.05	<0.05	<0.05	<0.05
2,4,5-Trichlorophenol	mg/l	<0.25	<0.25	<0.25	<0.25
2,4-Dinitrotoluene	mg/l	<0.05	<0.05	<0.05	<0.05
Hexachlorobenzene	mg/l	<0.05	<0.05	< 0.05	<0.05
Pentachlorophenol	mg/l	<0.25	<0.25	<0.25	<0.25
I	Pesticide and H	lerbicide Analysis (E	PA Methods 8080 a	ind 8150)	
Chlordane	mg/l	<0.0025	<0.0025	<0.0025	<0.0025
Endrin	mg/l	< 0.0005	<0.0005	< 0.0005	<0.0005
Heptachlor	mg/l	< 0.00025	<0.00025	<0.00025	<0.00025
gamma-BHC (Lindane)	mg/l	<0.00025	<0.00025	< 0.00025	<0.00025
Methoxychlor	mg/l	<0.0025	<0.0025	<0.0025	<0.0025
Toxaphene	mg/l	<0.025	<0.025	<0.025	<0.025
2,4-D	mg/l	<0.25	<0.25	<0.25	<0.25
2,4,5-TP (Silvex)	mg/l	< 0.002	< 0.002	< 0.002	< 0.002

- -

		Sampling Location				
Analytical Parameters	Units	BE-WC-01	BE-WC-02	BE-WC-03	<b>BE-WC-04</b>	
		Metal	S			
Mercury	ug/l	<20	<20	<20	<20	
Arsenic	ug/l	<300	<300	<300	<300	
Selenium	ug/l	<300	<300	<300	<300	
Silver	ug/l	<90	<90	<90	<90	
Barium	ug/l	640	760	1100	550	
Cadmium	ug/l	<50	<50	<50	<50	
Chromium	ug/l	<130	<130	<130	<130	
Lead	ug/l	<580	<580	<580	<580	

# Table 3, TCLP Waste Characterization Soil Sample Results (Continued)

< Compound was not identified above detection limit shown.

# Comparative Enumeration Assay Soil Sampling Summary Borgerding Estate Site June, 1993

	CEA Results (mean value <sup>1</sup> )					
Sample ID No.	Sample Depth (ft)	Total Population (cfu's)	Gasoline Degrader Population (cfu's)	Diesel Degrader Population (cfu's)	Degrader Population Total Population (%)	Comments
BE-CEA-01G	3-5	7.9E+05	2.8E+04	NA	3.5	Black gravelly sandy fill, petro odor, moist
BE-CEA-02D	3-5	3.7E+06	NA	1.7E+05	4.6	Black silty gravelly sandy fill, faint petro odor, moist
BE-CEA-03D	5-7	3.0E+06	NA	8.4E+05	28	Brown sandy fill and sandy silt, moist
BE-CEA-04D	3-5	2.1E+05	NA	9.4E+03	4.5	Black and brown sand fill, strong petro odor, wet at 4 feet
BE-CEA-05AG	1-3	3.4E+05	2.5E+05	NA	74	Brown sandy and gravelly fill, moist
BE-CEA-05BG	3-5	1.5E+05	3.3E+04	NA	22	Brown gravelly sand, faint petro odor, wet
BE-CEA-06G BE-CEA-06D	4-6 4-6	1.6E+06 4.5E+06	1.1E+05 NA	NA 2.6E+05	6.9 5.8	Brown and black gravelly sand fill, strong petro odor, wet and 5.5 feet
BE-CEA-07G BE-CEA-07D	4-6 4-6	5.1E+06 1.3E+06	7.3E+04 NA	NA 1.3E+04	1.4 1.0	Brown gravelly sand fill and silt, moist, presumed "clean" location based upon previous MW-6 soil sampling results

CEA Comparative enumeration assay.

cfu's Colony forming units/gram of dry weight soil.

NA Not analyzed.

1 Value is mean of maximum five replicate plate counts.

# Attachment 5

Laboratory Reports and Chain-of-Custody Documentation



(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

June 4,1993

Russ Janeshek Foth & Van Dyke 2737 S. Ridge Road P.O. Box 19012 Green Bay, Wi. 54307-9012

Dear Russ:

Subject: Samples Received June 3, 1993 Reference: 9306026(134598-134602) Project Number: 93W044

Enclosed you will find a report of analytical results of five(5) samples received by ORTEK Environmental Laboratory on June 3, 1993. The samples were analyzed in accordance to the Chain of Custody form contained herewith.

Should you have any questions regarding this report please feel free to call me at 498-2222. Please have both reference numbers listed above available when making inquiries regarding this report.

Sincerely,

taca MT(ASP)

Bécki Detaege MT(ASCP) Project Manager

Approval,

John Burnett Laboratory Manager

Enclosure

c: file

Fud 6.7.93 cc: LLA RLJ1 fele ⇒93WC44 (sort)



09 Western Avenue

**NVIRONMENTAL LABORATORY** 

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012

P O BOX 19012 GREEN BAY, WI 54307

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB12-01 Sample Desc: Groundwater Date Collected: 6/1/93 Date Received: 6/3/93 Job #: 93W044

### VOLATILE ORGANIC WATER ANALYSIS

P.O. Box 12435

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	4.9
Ethylbenzene	1.0	ND
Toluene	1.0	ND
Total Xylenes	3.0	ND

ND = Not Detected

Comments: Lab Sample ID: 9306026-134598 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

signed: <u>Christplerf.J.J.</u>

Date: <u>6/4/93</u>



(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

ENV!RONMENTAL LABORATORY 1609 Western Avenue

P.O. Box 12435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

and a second second

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB12-02
Sample Desc: Groundwater
Date Collected: 6/1/93
Date Received: 6/3/93
Job #: 93W044

### VOLATILE ORGANIC WATER ANALYSIS

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	ND
Ethylbenzene	1.0	ND
Toluene	1.0	ND
Total Xylenes	3.0	ND

ND = Not Detected

Comments: Lab Sample ID: 9306026-134599 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

Signed: Christopherf. In

Date: <u>6/4/93</u>



ENVIRONMENTAL LABORATORY

1609 Western Avenue

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB12-03 Sample Desc: Groundwater Date Collected: 6/1/93 Date Received: 6/3/93 Job #: 93W044

### VOLATILE ORGANIC WATER ANALYSIS

P.O. Box 12435

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	19
Ethylbenzene	1.0	1.7
Toluene	1.0	2.8
Total Xylenes	3.0	3.8

ND = Not Detected

Comments: Lab Sample ID: 9306026-134600 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

Christophen fr. 2 Signed:

Date: <u>6/4/93</u>



(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

ENVIRONMENTAL LABORATORY

## 1609 Western Avenue

P.O. Box 12435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB12-04 Sample Desc: Groundwater Date Collected: 6/1/93 Date Received: 6/3/93 Job #: 93W044

### VOLATILE ORGANIC WATER ANALYSIS

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	1.8
Ethylbenzene	1.0	ND
Toluene	1.0	ND
Total Xylenes	3.0	ND

ND = Not Detected

Comments: Lab Sample ID: 9306026-134601 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

Christoplen J. Dol Signed:

Date: <u>6/4/93</u>



(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

ENVIRONMENTAL	LABORATORY
1609 Western Avenue	

P.O. Box 12435

FOTH AND VAN DYKE CLIENT: ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

ATTENTION: Russ Janeshek

TELEPHONE: (414) 497-2500

Wisconsin Certification No. 405099530

Sample ID: BE-SB12-05 Sample Desc: Groundwater Date Collected: 6/1/93 Date Received: 6/3/93 Job #: 93W044

### VOLATILE ORGANIC WATER ANALYSIS

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	7.5
Ethylbenzene	1.0	ND
Toluene	1.0	ND
Total Xylenes	3.0	ND

ND = Not Detected

Comments: Lab Sample ID: 9306026-134602 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

Christophen J. D. Signed:

Date: <u>6/4/93</u>



## ENVIRONMENTAL LABORATORY

1609 Western Avenue

## (414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

#### VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

CUSTOMER NAME: FOTH & VAN DYKE

PROJECT: 93W044

DATE RECIEVED: 6/3/93

BATCH NUMBER: 9306026

DATE RUN: 6/3/93

SAMPLE SPIKED: 134604

COMPOUND	SPIKE ADDED (ug/L)	MS CONCENTRATION (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS % RECOVERY
1,1-DICHLOROETHENE	_ 25	24.6	0.0	98
BENZENE	50	48.0	0.0	96
TRICHLOROETHENE	25	23.5	0.0	94
TOLUENE	50	46.9	0.0	94
CHLOROBENZENE	50	48.4	0.0	97
m-XYLENE	25	23.3	0.0	93
STYRENE	25	31.7	0.0	127
ISOPROPYL BENZENE	25	22.2	0.0	89
n-PROPYL BENZENE	25	22.2	0.0	89
1,3,5-TRIMETHYLBENZENE	25	20.2	0.0	81
tert-BUTYLBENZENE	25	24.9	0.0	100

	SPIKE	MSD		
	ADDED	CONCENTRATION	MSD %	%
COMPOUND	(ug/L)	(ug/L)	RECOVERY	RPD
1,1-DICHLOROETHENE	25	25.2	101	2.7
BENZENE	50	50.4	101	4.8
TRICHLOROETHENE	25	24.3	97	3.5
TOLUENE	50	49.4	99	5.2
CHLOROBENZENE	50	51.2	102	5.6
m-XYLENE	25	25.0	100	7.3
STYRENE	25	34.7	139	9.2
ISOPROPYL BENZENE	25	23.9	96	7.5
n-PROPYL BENZENE	25	24.2	97	8.4
1,3,5-TRIMETHYLBENZENE	25	22.4	89	10.2
tert-BUTYLBENZENE	25	26.9	108	7.5

Reviewed by: Chistophen J. Durk.

Date: 6/4/93



ENVIRONMENTAL LABORATORY

1609 Western Avenue

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

VOLATILE SURROGATE RECOVERY

CUSTOMER NAME: Foth 8	& Van Dyke	PROJECT: 93W044	DATE RECE	VED: 6/3/93
BATCH #: 9306026			DATE RUN	6/3/93
LAB SAMPLE #	SURROGAI % RECOVE	IE 1 SURROGAT RY % RECOVER	E 2 RY	
134598	75.4	106.8		
134599	72.6	104.9		
134600	74.8	109.4		
134601	73.1	90.5		
134602	69.4	98.0		
134604MS	82.7	93.5		
134604MSD	79.1	87.4		

SURROGATE 1 = 1-CHLORO-2-FLUOROBENZENE SURROGATE 2 = ALPHA.ALPHA.ALPHA-TRIFLUOROTOLUENE

Reviewed by: Christipler J. In

Date: 6/4/93
ORTEK CHAIN OF CUSTOD	(/ANALYSIS	REQUES	TFORM	777		777	
Company Name: Edd all 0 ha	Bottle Size/P	Preservative					
Project No /Client: 921/044 / 1.100/R	-						
Compliant Location R . A. F. H. S. La							<b>b.:</b> 9228
Sampling Location: Doroeviding Estade Dife	×!///	//				/ /	
Sampler: <u>N. Fanosh</u>		/					9306026
Date Time Sample I.D./Description No	. of Bottles	Total Sample Type	ANA	LYSIS REQU	JESTED	Remarks	I.D. Number
6/1/93 1520 BE-SB1Z-01 4		4 GW	X				134548
1630 BE-SBIZ-02						Dosalle Acillina	134599
1750 BE-SB12-03						[mud	134600
1850 DE-5D12-07	╶┼╌╎──┼─┤						134601
<u>V 1195 DE-3012-05</u>			-¥				13440Z
Need Z4 hr. turn.	*SAMPLE TY S - Soil	PE SW - Sur DW - Dri	face Water H - H nking Water A - A	lazardous Liquid Nir	Date received: 3	RIS M F	RUSH
Centrituge Samples Whigh solids content	SE - Sedime	ent WW - Wa	astewater O-C	Dil	Quotation #:	(appro	ved by lab)
	50 - 5010	GW - GR	bundwater X - C	Juher	Purchase order #	•	·····
To be completed by client	Results to	o:		0	Billing address:		
Seal intact upon receipt by sampling co.: 🛛 Yes 🗌 No	-Foth	glan by	he - Green	Bay			······································
Packed by:		1.1.1	0110.1.0			<b>F</b> =	
Sealed for shipping by: Seal #	Attention	1: <u>Lanet</u> ]	e 171141560	h	Phone:	Fax:	
CUSTODY TRANSFERS				Shipping de	etails - to be com	pleted by ORTEK	
Relinquished by: Delta / FEtry , C. F. a. 1800 Merce	hat 1:	Date:	Time:	Seal intact upor	receipt by laboratory	- Hes	🗌 No
1 the / the work / Wan 13 the 15 1500 1500	- prograv.		5 70.13	Method of shipr Contents tempe	rature 1. 7	°C Refrig. # 4	U
	л.			ORTE	160 FK P.O	9 Western Avenue . Box 12435	•
Received for laboratory:	Martit	- 1.1z 14	2 10.10		Gre 414	en Bay, WI 54307-2435 7 103 0000	



1609 Western Avenue

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

rud 6.7.93 cc: LLA RLP1 Fele ⇒ 93 WC44 (9000)

June 4,1993

Russ Janeshek Foth & Van Dyke 2737 S. Ridge Road P.O. Box 19012 Green Bay, Wi. 54307-9012

Dear Russ:

Subject: Samples Received June 3, 1993 Reference: 9306027(134603-134607) Project Number: 93W044

Enclosed you will find a report of analytical results of five(5) samples received by ORTEK Environmental Laboratory on June 3, 1993. The samples were analyzed in accordance to the Chain of Custody form contained herewith.

Should you have any questions regarding this report please feel free to call me at 498-2222. Please have both reference numbers listed above available when making inquiries regarding this report.

Sincerely, NT(ACP)

Becki Detaege MT(ASCP) Project Manager

Approval,

must

John Burnett Laboratory Manager

Enclosure

c: file



ENVIRONMENTAL LABORATORY 1609 Western Avenue

P.O. Box 12435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB13-01 Sample Desc: Groundwater Date Collected: 6/2/93 Date Received: 6/3/93 Job #: 93W044

### VOLATILE ORGANIC WATER ANALYSIS

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	5.0	290
Ethylbenzene	5.0	ND
Toluene	5.0	ND
Total Xylenes	15	ND

E = Exceeds calibration range ND = Not Detected

Comments: Lab Sample ID: 9306027-134603 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

Christophen J Signed:

Date: <u>6/4/9</u>3



ENVIRONMENTAL LABORATORY 1609 Western Avenue

P.O. Box 12435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB13-02 Sample Desc: Groundwater Date Collected: 6/2/93 Date Received: 6/3/93 Job #: 93W044

#### VOLATILE ORGANIC WATER ANALYSIS

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	ND
Ethylbenzene	1.0	ND
Toluene	1.0	ND
Total Xylenes	3.0	ND

ND = Not Detected

Comments: Lab Sample ID: 9306027-134604 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

Signed:

Christophen

Date: <u>6/4/93</u>



ENVIRONMENTAL LABORATORY 1609 Western Avenue

P.O. Box 12435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB13-03 Sample Desc: Groundwater Date Collected: 6/2/93 Date Received: 6/3/93 Job #: 93W044

#### VOLATILE ORGANIC WATER ANALYSIS

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	ND
Ethylbenzene	1.0	ND
Toluene	1.0	ND
Total Xylenes	3.0	ND

\_\_\_\_\_\_

ND = Not Detected

Comments: Lab Sample ID: 9306027-134605 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

signed: <u>Christplenf. Inh</u>

Date: 6/4/93



1609 Western Avenue

ENVIRONMENTAL LABORATORY

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

Wisconsin Certification No. 405099530

Sample ID: BE-SB13-04 Sample Desc: Groundwater Date Collected: 6/2/93 Date Received: 6/3/93 Job #: 93W044

# ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500

## VOLATILE ORGANIC WATER ANALYSIS

P.O. Box 12435

PARAMETER	DETECTION LIMIT	CONCENTRATION ug/l
Benzene	1.0	ND
Ethylbenzene	1.0	ND
Toluene	1.0	ND
Total Xylenes	3.0	ND

\_

ND = Not Detected

Comments: Lab Sample ID: 9306027-134606 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

signed: <u>Christophonf</u>. In

Date: <u>6/4/93</u>



ENVIRONMENTAL LABORATORY 1609 Western Avenue

P.O. Box 12435

CLIENT: FOTH AND VAN DYKE ADDRESS: 2737 S RIDGE RD P O BOX 19012 GREEN BAY, WI 54307

GREEN BAY, WI 54307

ATTENTION: Russ Janeshek TELEPHONE: (414) 497-2500 Wisconsin Certification No. 405099530

Sample ID: BE-SB13-05
Sample Desc: Groundwater
Date Collected: 6/2/93
Date Received: 6/3/93
Job #: 93W044

### VOLATILE ORGANIC WATER ANALYSIS

DETECTION LIMIT	CONCENTRATION ug/l
1.0	ND
1.0	ND
1.0	ND
3.0	ND
	DETECTION LIMIT 1.0 1.0 1.0 3.0

ND = Not Detected

Comments: Lab Sample ID: 9306027-134607 Date Analyzed: 6/3/93 Analyzed by GC Method 8020.

Christophen Signed:

Date: <u>6/4/13</u>



1609 Western Avenue

# (414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

#### VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

CUSTOMER NAME: FOTH & VAN DYKE

PROJECT: 93W044

DATE RECIEVED: 6/3/93

BATCH NUMBER: 9306027

DATE RUN: 6/3/93

SAMPLE SPIKED: 134604

	SPIKE ADDED	MS CONCENTRATION	SAMPLE CONCENTRATION	MS %
COMPOUND	(ug/L)	(ug/L)	(ug/L)	RECOVERY
1,1-DICHLOROETHENE	25	24.6	0.0	98
BENZENE	50	48.0	0.0	96
TRICHLOROETHENE	25	23.5	0.0	94
TOLUENE	50	46.9	0.0	94
CHLOROBENZENE	50	48.4	0.0	97
m-XYLENE	25	23.3	0.0	93
STYRENE	25	31.7	0.0	127
ISOPROPYL BENZENE	25	22.2	0.0	89
n-PROPYL BENZENE	25	22.2	0.0	89
1,3,5-TRIMETHYLBENZENE	25	20.2	0.0	81
tert-BUTYLBENZENE	25	24.9	0.0	100

SPIKE	MSD		
ADDED	CONCENTRATION	MSD %	%
(ug/L)	(ug/L)	RECOVERY	RPD
25	25.2	101	2.7
50	50.4	101	4.8
25	24.3	97	3.5
50	49.4	99	5.2
50	51.2	102	5.6
25	25.0	100	7.3
25	34.7	139	9.2
25	23.9	96	7.5
25	24.2	97	8.4
25	22.4	89	10.2
25	26.9	108	7.5
	SPIKE ADDED (ug/L) 25 50 25 25 25 25 25 25 25 25 25 25	SPIKE         MSD           ADDED         CONCENTRATION           (ug/L)         (ug/L)           25         25.2           50         50.4           25         24.3           50         49.4           50         51.2           25         25.0           25         34.7           25         23.9           25         24.2           25         24.2           25         24.2           25         24.2           25         26.9	SPIKE         MSD           ADDED         CONCENTRATION         MSD %           (ug/L)         (ug/L)         RECOVERY           25         25.2         101           50         50.4         101           25         24.3         97           50         49.4         99           50         51.2         102           25         25.0         100           25         34.7         139           25         23.9         96           25         24.2         97           25         24.2         97           25         26.9         108

Reviewed by: <u>Christophenficture</u>.

Date: 6/4/93



1609 Western Avenue

# (414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

VOLATILE SURROGATE RECOVERY

CUSTOME	R NAME:	Foth & Van Dyke	PROJECT:	93W044	DATE RECE	IVED:	6/3/93
BATCH #:	9306027				DATE RUN	6/3/93	
	LAB SAMPL	.E #	SURROGATE 1 % RECOVERY	SURROGATE 2 % RECOVERY			
	134603		67.6	69.3			
	134604		73.8	96.1			
	134605		77.3	106.6			
	134606		76.6	97.9			
	134607		72.7	91.1			
	134604MS		82.7	93.5			
	134604MSD	I	79.1	87.4			

SURROGATE 1 = 1-CHLORO-2-FLUOROBENZENE SURROGATE 2 = ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE

Reviewed by: Christoplen J. And

Date: 6/4/93

	<u> </u>		CHAIN OF CL	JSTODY/A	NALYSI	S RE	EQUES	TFC	RM /		///		7777	
Compa	r Inv Nam	10. Entlas	L. D. too		Bottle Siz	e/Prese	rvative							
Draiaal			ul / 10.10		J / /	///	/ /	:	/ /			/ /		
Projeci	( NO./CII	ent: <u>1000</u>	44/WWK		₹ / / ,		/		/ /			/ /	/ / / M	lo.: 0220
Sampli	ng Loca	ition: <u>Dome</u>	erding Estate S	site g			/	1	$\forall$ /		/ / ,	/ /		
Sample	er:f	R. Panosh				//			/ /					ONTEK Batch No.
Date	Time	Sample	I.D./Description	No. of	Bottles	Total	*S∎mple Type	/Y	AN/	ALYSIS REQ	UESTED	_//_ ) 	Remarks	I.D. Number
1/2/93	1240	BE-SB13	-0	4		4	GW	X						134603
	132D	BE-SB13	5-07			-  -	<u> }.</u>						possible thilling	134604
	1435	BE-SB13	-03			_ _ -								134605
	1540	BE-SBI3	1-04	¥		1		-			-			134604
	1705	BE-SB13	-05	3	.	3	$ \Psi $	$ \Psi $		<u> </u>				134407
					.						-			
						-					-			-
	<b> </b>					-					-			
COMMENT	S/SPECIAL IN	ISTRUCTIONS:		LLL	•SAMPLE	TYPE	SW - Sur	ll lace Wa	nter H-	Hazardous Liquid	Date re	celved:	4-3-93	
Nee	& 24	hr. turn,	1		S - Soil		DW - Drir	nking W	ater A -	Air	Date di	10: 6-3	3-93	RUSH
Cent	vifuge	Samples W/	high solids a	ordenSt	SE - Sedi SO - Solid	ment 1	GW - Wa	astewati bundwa	er O- ler X-	Oil Other	Quotat Purcha	ion #: se order	· #:	,
□ #Pb>	5 ppm do TCL	P			Decult				<u> </u>		Dilling			
To be	comple	ted by client			Hesuit	s io. 	1.1		<u> </u>	R	ышпу	auuress		
Seal inta	t upon rece	ipt by sampling co.:	🗋 Yes 🗌 No			149	Van 1	JUNE	-910	en Dal				
Packed b	y:						]	<u>.</u>	<u> </u>	-9-				
Sealed Io	or shipping b	y:	Seal #		Attenti	on:	Lanc	<u>146  </u>	titent	xich	Phone	·	Fax:	
CUST	ODY TI	RANSFERS								Shipping d	etails - to	o be cor	mpleted by ORTE	<
Relinqu	ished by:	Fatha Date	: Time:	Received by:			Date:	1	ime:	Seal intact upo	on receipt by	laboratory	y EPos	No No
1. Kul	Paun	Un Alfa 6-2-	93_1000							Method of ship	ment:	Teder 17	e Express	114
2			-								erature	<u> </u>	CC 609 Westem Avenue	AL
	<u></u>			-1			1				EK	P G	P.O. Box 12435 Green Bay, WI 54307-243	35
Receiver	l lor laborate	жγ:		Kleiner Kr	1. M. )		4-5.9	5 1	1100	1		4	14/490-2222	



1609 Western Avenue

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

June 17,1993

Russ Janeshek Foth & Van Dyke 2737 S. Ridge Road P.O. Box 19012 Green Bay, Wi. 54307

near 6.18.93 cc: LLA RCP1 fel2 => 93 WO44 B/2 3 ( seec)

Dear Russ:

Subject: Samples Received June 5, 1993 Reference: 9306053(134707-134710) Project Number: 93W044/WDNR/Borgerding Site

Enclosed you will find a report of analytical results of four(4) samples received by ORTEK Environmental Laboratory on June 5, 1993. The samples were analyzed in accordance to the Chain of Custody form contained herewith.

Should you have any questions regarding this report please feel free to call me at 498-2222. Please have both reference numbers listed above available when making inquiries regarding this report.

Sincerely,

Halge MT(ASCP) Becki Detaege MT(ASCP)

Project Manager

Approval,

John Burnett Laboratory Manager

Enclosure

c: file



the risk of a live a bit of a

1609 Western Avenue

î

P.O. Box 12435

- SAMPLE ANALYSIS REPORT -

To: FOTH & VAN DYKE 2737 S RIDGE ROAD P O BOX 19012 GREEN BAY WI 54307

Attn: RUSS JANESHEK

Batch ID : 9306053 Our Lab # : 134707 Your Sample ID: BE-WC-01 Sample Matrix : SOIL

Report Date: 06/17/93

	COLLECTION	INFORMATION
Date/Time/By:	06/04/93 07:45	R P
Location :	93W044/WDNR BORG	GERDING

Lab#	test		Result	Units	Analysis Date
134707	TCLP Mercury Non-Volatile TCLP Extraction TCLP Arsenic TCLP Selenium TCLP Silver TCLP Barium TCLP Cadmium TCLP Chromium TCLP Lead	< < < < < < < < <	20 EXTRACTED 300 300 90 640 50 130 580	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	06/11/93 06/07/93 06/09/93 06/09/93 06/15/93 06/10/93 06/10/93 06/10/93 06/10/93

signed Earl & felmol 6/17/93 Date Signed Date



ENVIRONMENTAL LABORATORY 1609 Western Avenue

them a social of 2 costs

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

#### - SAMPLE ANALYSIS REPORT -

To: FOTH & VAN DYKE 2737 S RIDGE ROAD P O BOX 19012 GREEN BAY WI 54307

Attn: RUSS JANESHEK

Batch ID : 9306053 Our Lab # : 134708 Your Sample ID: BE-WC-02 Sample Matrix : SOIL

Report Date: 06/17/93

COLLECTION INFORMATION Date/Time/By: 06/04/93 09:20 R P Location : 93W044/WDNR BORGERDING

Lab#	test		Result	Units	Analysis Date
134708	TCLP Mercury Non-Volatile TCLP Extraction TCLP Arsenic TCLP Selenium TCLP Silver TCLP Barium TCLP Cadmium TCLP Chromium TCLP Lead	< < < < < < < < < < < < < < < < < < <	20 EXTRACTED 300 300 90 760 50 130 580	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	06/11/93 06/07/93 06/09/93 06/15/93 06/10/93 06/10/93 06/10/93 06/10/93

Corl & feland Signed

Signed

6/17/93 Date \_\_\_\_

Date



ENVIRONMENTAL LABORATORY 1609 Western Avenue (414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

- SAMPLE ANALYSIS REPORT -

TO: FOTH & VAN DYKE 2737 S RIDGE ROAD P O BOX 19012 GREEN BAY WI 54307

Attn: RUSS JANESHEK

Batch ID : 9306053 Our Lab # : 134709 Your Sample ID: BE-WC-03 Sample Matrix : SOIL

Report Date: 06/17/93

COLLECTION INFORMATION Date/Time/By: 06/04/93 09:45 R P Location : 93W044/WDNR BORGERDING

Lab#	test		Result	Units	Analysis Date
134709	TCLP Mercury Non-Volatile TCLP Extraction TCLP Arsenic TCLP Selenium TCLP Silver TCLP Barium TCLP Cadmium TCLP Chromium TCLP Lead	< < < < < < < <	20 EXTRACTED 300 300 90 1100 50 130 580	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	06/11/93 06/07/93 06/09/93 06/09/93 06/15/93 06/10/93 06/10/93 06/10/93 06/10/93

signed Earl & felmelt

Date \_\_\_\_

Signed

Date



ENVIRONMENTAL LABORATORY 1609 Western Avenue (414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

- SAMPLE ANALYSIS REPORT -

To: FOTH & VAN DYKE 2737 S RIDGE ROAD P O BOX 19012 GREEN BAY WI 54307

Attn: RUSS JANESHEK

Batch ID : 9306053 Our Lab # : 134710 Your Sample ID: BE-WC-04 Sample Matrix : SOIL

Report Date: 06/17/93

	COLLECTION	INFORMATION
Date/Time/By:	06/04/93 10:25	R P
Location :	93W044/WDNR BORG	GERDING

Lab#	test		Result	Units	Analysis Date
134710	TCLP Mercury Non-Volatile TCLP Extraction TCLP Arsenic TCLP Selenium TCLP Silver TCLP Barium TCLP Cadmium TCLP Chromium TCLP Lead	< < < < < < < < <	20 EXTRACTED 300 300 90 550 50 130 580	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	06/11/93 06/07/93 06/09/93 06/09/93 06/15/93 06/10/93 06/10/93 06/10/93 06/10/93

signed Carl Schmoll

Date '93 \_\_\_ Date

Signed

		I OF CUSTODY	(/AN	ALY	SIS	s re	QUES	ST F	· OR	м /		/		7		7777	
Company Non	Edu k		/	Bott	e Size	e/Prese	vative				¥ /		/				
	ie. <u>print Unn</u>	1992	-/ .		/ /	'/,	/ /		/	~ T	' / /	/ /	' /	/			
Project No./Cli	ent: $\underline{93}\underline{0044}/\underline{1}$	INNR	L.L				/ -			¥							No: 0235
Sampling Loca	ation: <u>Borgerding</u>	Site	*>	¥ /			/	/	27	/		/ /	/ /	/ /			9235
Sampler:	R. Janosh	X	///		/ /				Ŷ					/		· /	ORTEK Batch No.
Date Time	Sample I.D./Desc	cription No.	of B	ottle	es_	Total	*Sample Type	ſ	<u>y</u>	ANA	LYSIS F	REQU	JEST	ED	<u> </u>	Remarks	I.D. Numbe.
4/93 0745	BE-WC-01	Z				2	so'i)	X									134707
0920	BE-WC-02							11	<u> </u>								134708
0945	BE-WC-03							$\downarrow$									134709
1025	- BE-WC-04	M	┼-┼			$  \mathbf{V}  $	V	$ \Psi $	<b> </b>								134710
			-					.									
			┼╍┼														
			┼╼┼														
COMMENTS/SPECIAL IN	ISTRUCTIONS:		<u> </u>	SAME			SW - Su		Water	H-H	lazardous I	iquid	Dat	e rece	eived:	6/5/93	
				S - So	bil j		DW - Dr	inking	Water	A - A	vir	14010	Dat	e due	<u> </u>	1\$ 93	RUSH
				SE - 5 SO - 5	Sedim Solid	ient	WW - W GW - Gr	astew oundv	ater vater	0-0 X-0	Dil Dther	· .	Quo Pur	otatio chase	n #: e order #	````` #:	, ,
If Pb > 5 ppm do TCL	p		┣										<u> </u>			2777 5 1	$2 \cdot 1 \cdot 100$
To be complet	ed by client			Hes		10: )	1. 0						лина 1	ng ac	iaress:	<u> 2131 J.F</u>	idge Kol.
Seal intact upon recei	pt by sampling co.: 🔲 Yes				<u>ro4</u>	na	Jan t	Je		<u>5.0</u>		_		<u>.0.</u> k	<u>50X</u> R	HUIZ	
Packed by:		<u></u>				1		<u> </u>	11	1	1			<u>i eer</u>	<u>1 Var</u>	LUL SA	
Sealed for shipping by	/:	Seal #	_	Atte	Intio	n: <u>L</u>	anett	er	11461	1940	<u>n</u>		Pno	ne: <u>-</u>	119-97	<u>xy-2500</u> Fax:	
CUSTODY TH	RANSFERS										Shippiı	ng de	etails	- to t	be com	pleted by ORTE	K
Relinquished b	Date: Time	Received by:					Date:		Time:		Seal inta	ct upor	n receip	pt by la	boratory	Yes	🗆 No
1. Janhol Guy	107 - <u>9-9-93</u> 13						<u></u>				Method o	l shipr	nent:_		50		6.41
2											Contents	tempe	rature		160	°C Refrig. # 09 Western Avenue	<u> </u>
				1-	4		ller	.,	11.	20		TE	ΞK		P.C Gro	D. Box 12435 een Bay, WI 54307-24	135
Received for laborato	ry:	pion fe	/ e	A	<u>м</u> Ут	(	477	>	19	<u></u>	L				414	4/498-2222	<u></u>

. .



P.O. Box 12435

June 25, 1993

Lanette Altenbach Foth & Van Dyke 2737 S. Ridge Road P.O. Box 9012 Green Bay, Wi. 54307-9012

recar 6.25.95 ec. RLP1 LLA Flo ⇒ 93WC44 3 (9000)

Dear Lanette:

Subject: Project 93W044/WDNR/Borgerding Site Reference: 9306052(134703-134706)

Enclosed you will find the analytical results of four(4) samples received by ORTEK Environmental Laboratory on 6/5/93.

We realize that these results are late and apologize for any inconvenience that this may have caused.

Should you have any questions regarding this report please feel free to call me at 498-2222. Please have both reference numbers listed above available when making inquiries regarding this report.

Sincerely, tage MT(ASCP)

Śecki Detaege MT(ASCP)
Project Manager

Approval, Durnett

John Burnett Laboratory Manager

Enclosure

c: file



1609 Western Avenue

P.O. Box 12435

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

#### GC/MS TCLP (ZHE) VOLATILE ORGANIC ANALYSIS

Client:	Foth & Van Dyke	Project Name/Desc.:	Borgerding Site
Address:	2737 S. Ridge Road	Project Number:	93W044/WDNR
	Green Bay, ŴI 54307	Batch Number:	9306052
Phone:	(414) 497-2500	COC Number:	9234
FAX:	(414) 497-8516		
		Case No.:	FVD
Contact:	Lanette Altenbach	SDG No.:	BEWC01

#### SAMPLE SUMMARY

Client Sample No. BE-WC-01 BE-WC-02 BE-WC-03 BE-WC-04 EPA Sample No. BEWC01 BEWC02 BEWC03

BE-WC-04BEWC04134706COMMENTS:VOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8240 ON A<br/>DB-624 CAPILLARY COLUMN

- 1.) The instrument ID for Volatile Organic Analysis is HP-B. The blank associated with the samples is VBLK05. The TCLP extraction blank is EPA Sample No. TBLK02, extracted on 06/10/93.
- 2.) All ZHE samples are diluted 1:20 to reduce matrix problems due to the TCLP buffers.

"Q" COLUMN QUALIFIERS:

- U Compound analyzed for but not detected
- B Indicates the analyte is found in the associated method blank
- J Estimated value, concentration of analyte below quantitation limit
- E Compound exceeds calibration range, but did not saturate the detector; actual concentrations could be higher than reported
- D Compound identified in the analysis at a secondary dilution
- N Indicates presumptive evidence of a compound (identified based on mass spectral library search)

Signed: GC/MS/EC Supervisor Title:

Name: John C. Rather Date:\_\_\_\_\_6/24/93\_\_\_\_

Ortek Lab Sample ID

134703

134704

# - 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

ł

EPA SAMPLE NO.

lab Nam	ne: ORTEK	(	Contract:	:		BEWC	01
Lab Cod	ie: ORTEK Cas	se No.: FVD	SAS No.:	:	SDG	No.: H	BEWC01
4atrix:	: (soil/water) WA	ATER		Lab Sa	mple ID:	13470	03
Sample	wt/vol: 5	(g/ml) ML		Lab Fi	le ID:	>B(	5F03
Level:	(low/med) LOW			Date R	eceived:	06/05	5/93
₹ Moist	ture: not dec.			Date A	nalyzed:	06/1	5/93
Column:	: (pack/cap) CAI	2		Diluti	on Facto	or: 20	
	CAS NO.	COMPOUND	CONCENI (ug/L	RATION or ug/	UNITS: Kg) MG/I		Q
	75-01-4 75-35-4 67-66-3 107-06-2 78-93-3 56-23-5 79-01-6 71-43-2 127-18-4 108-90-7 106-46-7	Vinyl Chloride 1,1-Dichloroet Chloroform 1,2-Dichloroet Methyl Ethyl Ko Carbon Tetrach Trichloroethene Benzene Tetrachloroethe Chlorobenzene 1,4-Dichlorobe	hene hane etone loride e ene nzene			.10 .10 .10 .10 .10 .10 .10 .10 .10	

1 .

)

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

-

Lab Na	me: ORTEK		Contract:			BEWC	)2
Lab Co	de: ORTEK Cas	se No.: FVD	SAS No.:	:	SDG	No.: I	BEWC01
Matrix	: (soil/water) WA	ATER		Lab Sa	mple ID:	: 1347(	)4
Sample	wt/vol: 5	(g/ml) ML		Lab Fi	le ID:	>B(	5F04
Level:	(low/med) LOW			Date F	leceived	06/09	5/93
% Mois	ture: not dec.			Date A	nalyzed:	06/1	5/93
Column: (pack/cap) CAP					on Facto	or: 20	
	CAS NO.	COMPOUND	CONCENT (ug/L	TRATION or ug/	N UNITS: 'Kg) MG/I	Ľ.	Q.
	75-01-4 75-35-4 67-66-3 107-06-2 78-93-3 56-23-5 79-01-6 71-43-2 127-18-4 108-90-7 106-46-7	Vinyl Chloride 1,1-Dichloroet Chloroform 1,2-Dichloroet Methyl Ethyl K Carbon Tetrach Trichloroethen Benzene Tetrachloroeth Chlorobenzene 1,4-Dichlorobe	hene hane etone loride e ene nzene			.10 .10 .10 .10 .10 .10 .10 .10 .10	

FORM I VOA

1.17

1. 2. 2. 2. A. 2.

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: OR		BEWC	03					
Lab Code: OR	TEK Ca	se No.: FVD	SAS No.	:	SDG	No.: 1	BEWC01	
Matrix: (soi	.l/water) W	ATER		Lab Sa	mple ID:	: 13470	05	
Sample wt/vc	ol: 5	(g/ml) N	ML	Lab Fi	le ID:	>B(	6F05	
Level: (lo	w/med) LOW			Date F	leceived	06/0	5/93	
<pre>% Moisture:</pre>	not dec.			Date A	nalyzed:	06/1	5/93	
Column: (pack/cap) CAP Dilution Factor: 20								
CAS N	10.	COMPOUND	CONCEN (ug/L	TRATION or ug/	I UNITS: 'Kg) MG/I		Q	
75-01 75-35 67-66 107-0 78-93 56-23 79-01 71-43 127-1 108-9 106-4	-4 -3 	Vinyl Chlori 1,1-Dichlord Chloroform 1,2-Dichlord Methyl Ethyl Carbon Tetra Trichloroeth Benzene Tetrachloroe Chlorobenzer 1,4-Dichlord	ide Dethene Dethane I Ketone achloride hene ethene he Dobenzene			.10 .10 .10 .10 .10 .10 .10 .10 .10	U U U U U U U U U U U U U U U	

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BEWC04 Lab Name: ORTEK Contract: Lab Code: ORTEK Case No.: FVD SAS No.: SDG No.: BEWC01 Matrix: (soil/water) WATER Lab Sample ID: 134706 Sample wt/vol: 5 (g/ml) ML Lab File ID: >B6F06 (low/med) LOW Level: Date Received: 06/05/93 % Moisture: not dec. Date Analyzed: 06/15/93 Column: (pack/cap) CAP Dilution Factor: 20 CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) MG/L Q 75-01-4 Vinyl Chloride U .10 75-35-4 1,1-Dichloroethene .10 U 67-66-3 Chloroform .10 U 107-06-2 1,2-Dichloroethane .10 U 78-93-3 Methyl Ethyl Ketone U .20 56-23-5 Carbon Tetrachloride .10 U 79-01-6 Trichloroethene .10 U 71-43-2 Benzene .10 U 127-18-4 Tetrachloroethene .10 U 108-90-7 Chlorobenzene .10 U 1,4-Dichlorobenzene 106-46-7 U .10

# 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Na	me: ORTEK		Contract:		TBLK	02	
Lab Co	de: ORTEK	Case No.: FVD	SAS No.:	SDG	No.: I	BEWC01	
Matrix	: (soil/water)	WATER	Lab Sa	ample ID:	06101	BLK	
Sample	wt/vol: 5	(g/ml) ML	Lab Fi	le ID:	>B(	5F02	
Level:	(low/med) L	WO	Date F	Received:	1		
% Mois	ture: not dec.		Date A	Analyzed:	06/15	5/93	
Column	Column: (pack/cap) CAP Dilution Factor: 20						
	CAS NO.	COMPOUND	CONCENTRATION (ug/L or ug/	N UNITS: 'Kg) MG/I	L	Q	•
	75-01-4 75-35-4 67-66-3 107-06-2 78-93-3 56-23-5 79-01-6 71-43-2 127-18-4 108-90-7 106-46-7	Vinyl Chloride 1,1-Dichloroet Chloroform 1,2-Dichloroet Methyl Ethyl K Carbon Tetrach Trichloroethen Benzene Tetrachloroeth Chlorobenzene 1,4-Dichlorobe	hene hane tetone loride e ene enzene		.10 .10 .10 .10 .10 .10 .10 .10 .10	บ บ บ บ บ บ บ บ บ บ บ	

# lA VOLATILE ORGANICS ANALYSIS DATA SHEET

 EPA SAMPLE NO.

Lab Na	me: ORTEK		Contract:			VBLK	)5
Lab Co	de: ORTEK Ca	se No.: FVD	SAS No.:		SDG	No.: H	BEWC01
Matrix	: (soil/water) W	ATER		Lab Sa	ample ID:	06151	BLK
Sample	wt/vol: 5	(g/ml) ML		Lab Fi	le ID:	>B6	5FB1
Level:	(low/med) LOW			Date F	Received:	:	
% Mois	ture: not dec.			Date A	Analyzed:	06/15	5/93
Column	: (pack/cap) CA	2		Diluti	on Facto	or: 1.(	)
	CAS NO.	COMPOUND	CONCENI (ug/L	RATION or ug/	N UNITS: 'Kg) ug/I		Q.
	75-01-4 75-35-4 67-66-3 107-06-2 78-93-3 56-23-5 79-01-6 71-43-2 127-18-4 108-90-7 106-46-7	Vinyl Chloride 1,1-Dichloroet Chloroform 1,2-Dichloroet Methyl Ethyl K Carbon Tetrach Trichloroethen Benzene Tetrachloroeth Chlorobenzene 1,4-Dichlorobe	hene hane etone loride e ene nzene				

FORM I VOA



1609 Western Avenue

P.O. Box 12435

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

#### GC/MS TCLP SEMIVOLATILE ORGANIC ANALYSIS

Client: Address: Phone:	Foth & Van Dyke 2737 S. Ridge Road Green Bay, WI 54307 (414) 497-2500	Project Name/Desc.: Project Number: Batch Number: COC Number:	WDNR 93W044 9306052 9234
FAX:	(414) 497-8516	Case No.:	FVD
Contact:	Lanette Allenbach	SDG No.:	BEWC01

#### SAMPLE SUMMARY

Client Sample No. BE-WC-01 BE-WC-02 BE-WC-03 BE-WC-04 EPA Sample No. BEWC01 BEWC02 BEWC03 BEWC04

COMMENTS: SEMIVOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8270 ON A DB-5MS CAPILLARY COLUMN.

- 1.) The instrument ID for Semivolatile Organic Analysis is HP-C. The blank associated with the samples is SBLK02.
- 2.) The m,p-Cresol isomers coelute and cannot be separated and are therefore reported as a combined total.
  - "Q" COLUMN QUALIFIERS:
  - U Compound analyzed for but not detected
  - B Indicates the analyte is found in the associated method blank
  - J Estimated value, concentration of analyte below quantitation limit
  - E Compound exceeds calibration range, but did not saturate the detector; actual concentrations could be higher than reported
  - D Compound identified in the analysis at a secondary dilution
  - N Indicates presumptive evidence of a compound (identified based on mass spectral library search)

Signed: Title: Superisor

Name: John C. Rather

Ortek Lab Sample ID

134703

134704

134705

134706

Date: 6/23/93

### 1B

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ORTEK		Contract:		BEWC	01
Lab Code: ORTEK Cas	se No.: FVD	SAS No.:	SDG	No.:	BEWC01
Matrix: (soil/water) WA	ATER	Lab S	ample ID:	: 1347	03
Sample wt/vol: 200	(g/ml) ML	Lab E	Tile ID:	>C	6H05
Level: (low/med) LOW		Date	Received	: 06/0	5/93
<pre>% Moisture: not dec.</pre>	dec.	Date	Extracted	l: 06/	11/93
Extraction: (Sepf/Cont	c/Sonc) SEPF	Date	Analyzed	: 06/1	7/93
GPC Cleanup: (Y/N) N	pH:	Dilut	ion Facto	or: 1.	0
CAS NO.	COMPOUND	CONCENTRATIC (ug/L or ug	)N UNITS: [/Kg) <sub>(</sub> mg/I		Q
110-86-1 95-48-7 67-72-1 98-95-3 87-68-3 88-06-2 95-95-4 121-14-2 118-74-1 87-86-5	Pyridine o-Cresol m,p-Cresol Hexachloroethan Nitrobenzene Hexachlorobutad 2,4,6-Trichlord 2,4,5-Trichlord 2,4-Dinitrotolu Hexachlorobenze Pentachlorophen	ne diene ophenol ophenol uene ene nol		.05 .05 .05 .05 .05 .05 .05 .05 .25 .05 .25	

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ORTEK Contract	:	BEWC02
Lab Code: ORTEK Case No.: FVD SAS No.	: SDG	No.: BEWC01
Matrix: (soil/water) WATER	Lab Sample ID:	: 134704
Sample wt/vol: 200 (g/ml) ML	Lab File ID:	>С6Н06
Level: (low/med) LOW	Date Received:	06/05/93
% Moisture: not dec. dec.	Date Extracted	l: 06/11/93
Extraction: (Sepf/Cont/Sonc) SEPF	Date Analyzed:	06/17/93
GPC Cleanup: (Y/N) N pH:	Dilution Facto	or: 1.0
CAS NO. COMPOUND (ug/L	<pre>IRATION UNITS: or ug/Kg) mg/I</pre>	, Q
110-86-1Pyridine95-48-7o-Cresolm,p-Cresol67-72-1Hexachlorobtane98-95-3Nitrobenzene87-68-3Hexachlorobutadiene88-06-22,4,6-Trichlorophenol95-95-42,4,5-Trichlorophenol121-14-22,4-Dinitrotoluene118-74-1Hexachlorobenzene87-86-5Pentachlorophenol		.05 U .05 U .05 U .05 U .05 U .05 U .25 U .05 U .25 U .25 U

Lab Name: ORTEK		Contract:		BEWC	03
Lab Code: ORTEK Ca	se No.: FVD	SAS No.:	SDG	No.:	BEWC01
Matrix: (soil/water) W	ATER	I	Lab Sample ID:	: 1347	05
Sample wt/vol: 200	(g/ml) ML	I	Lab File ID:	>C	6Н07
Level: (low/med) LOW		Γ	Date Received:	: 06/0	5/93
<pre>% Moisture: not dec.</pre>	dec.	Γ	)ate Extracted	1: 06/	11/93
Extraction: (Sepf/Con	t/Sonc) SEPF	r	Date Analyzed:	: 06/1	7/93
GPC Cleanup: (Y/N) N	pH:	Γ	)ilution Facto	or: 1.0	0
CAS NO.	COMPOUND	CONCENTR (ug/L c	ATION UNITS: or ug/Kg) mg/I		Q
110-86-1 95-48-7 67-72-1 98-95-3 87-68-3 88-06-2 95-95-4 121-14-2 118-74-1 87-86-5	Pyridine o-Cresol m,p-Cresol Hexachloroethan Nitrobenzene Hexachlorobutad 2,4,6-Trichlord 2,4,5-Trichlord 2,4-Dinitrotolu Hexachlorobenze Pentachlorophen	ne diene ophenol ophenol uene ene nol		.05 .05 .05 .05 .05 .05 .05 .05 .25	

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ab Name: ORTEK		Contract:		BEWC	04
ab Code: ORTEK Cas	se No.: FVD	SAS No.:	SDG	No.:	BEWC01
<pre>fatrix: (soil/water) With</pre>	ATER	La	ab Sample ID:	1347	06
ample wt/vol: 200	(g/ml) ML	La	ab File ID:	>C	6Н08
Level: (low/med) LOW		Da	ate Received:	06/0	5/93
Moisture: not dec.	dec.	Da	ate Extracted	l: 06/3	11/93
xtraction: (Sepf/Cont	t/Sonc) SEPF	Da	ate Analyzed:	06/1	7/93
SPC Cleanup: (Y/N) N	pH:	Di	ilution Facto	or: 1.0	0
CAS NO.	COMPOUND	CONCENTRA (ug/L or	ATION UNITS: cug/Kg) mg/I	J	Q
110-86-1 95-48-7 67-72-1 98-95-3 87-68-3 88-06-2 95-95-4 121-14-2 118-74-1 87-86-5	Pyridine o-Cresol m,p-Cresol Hexachloroetha Nitrobenzene Hexachlorobuta 2,4,6-Trichlor 2,4,5-Trichlor 2,4-Dinitrotol Hexachlorobenz Pentachlorophe	ane adiene cophenol cophenol uene cene enol		.05 .05 .05 .05 .05 .05 .05 .25 .05 .25	

#### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: ORTEK		Contract:		SBLK	02
Lab Code: ORTEK Cas	se No.: FVD	SAS No.:	SDG	No.:	BEWC01
Matrix: (soil/water) WA	ATER	Lab Sa	ample ID:	0611	BLK
Sample wt/vol: 200	(g/ml) ML	Lab Fi	le ID:	>C(	6Н0З
Level: (low/med) LOW		Date F	Received:		
<pre>Moisture: not dec.</pre>	dec.	Date E	xtracted	: 06/	11/93
Extraction: (Sepf/Cont	C/Sonc) SEPF	Date A	nalyzed:	06/1	7/93
GPC Cleanup: (Y/N) N	pH:	Diluti	on Facto.	or: 1.0	0
CAS NO.	COMPOUND	CONCENTRATION (ug/L or ug/	UNITS: 'Kg) mg/L	L	Q
110-86-1 95-48-7 67-72-1 98-95-3 87-68-3 88-06-2 95-95-4 121-14-2 118-74-1 87-86-5	Pyridine o-Cresol m,p-Cresol Hexachloroetha Nitrobenzene Hexachlorobuta 2,4,6-Trichlor 2,4,5-Trichlor 2,4-Dinitrotol Hexachlorobenz Pentachlorophe	ne diene ophenol ophenol uene ene nol		.05 .05 .05 .05 .05 .05 .05 .25 .05 .25	



1609 Western Avenue

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

Green Bay, WI 54307	CLIENT SAMPLE ID: PROJECT JOB #: PROJECT DESC:	BE-WC-01 93W044/WDNR Borgerding Site
TELEPHONE: (414) 497-2500         FAX:       (414) 497-8516         ATTENTION: Lanette Altenbach	SAMPLE MATRIX: DATE COLLECTED: DATE RECEIVED:	SOIL 06/04/93 06/05/93
TCLP PC	B/PESTICIDE ANALYSI	S
PARAMETERS	DETECTION LIMITS (mg/L)	CONCENTRATION (mg/L)
Chlordane	0.0025	U
Endrin	0.0005	U
Heptachlor	0.00025	U
gamma-BHC (Lindane)	0.00025	υ
Methoxychlor	0.0025	UU
Toxaphene	0.025	U
<ul> <li>Lab Sample ID: 134703</li> <li>Analyzed by modified EPA Method 8</li> <li>SPB-608 capillary column.</li> </ul>	Analysis Date: 080 on a PTE-5 capillary column	06/23/93 n and confirmed with a
Comments: U = Compound analyzed for but B = Detected in associated meth J = Estimated value, concentrati	not detected od blank on of analyte below method det	ection limit
Comments: U = Compound analyzed for but B = Detected in associated meth J = Estimated value, concentrati Analyst: VMA (2010)	not detected od blank on of analyte below method det	ection limit

COMPANY: Foth & Van Dyke ADDRESS: 2737 S. Ridge Road Green Bay, WI 54307 TELEPHONE: (414) 497-2500 FAX: (414) 497-8561 ATTENTION: Lanette Altenbach	CLIENT SAMPLE ID: BE PROJECT JOB #: 93 PROJECT DESC: Bo SAMPLE MATRIX: SO DATE COLLECTED: 06 DATE RECEIVED: 06	-WC-01 W044/WDNR orgerding Site DIL 5/04/93 5/05/93
TCLP	HERBICIDE ANALYSIS	
PARAMETERS	DETECTION LIMITS (mg/L)	CONCENTRATION (mg/L)
2,4-D	0.25	U
	0.002	U
•Batch: 9306052	Extraction Date: 06	5/10/93
•Batch: 9306052     •Lab Sample ID: 134703     •Analyzed by modified EPA Method & SPB-608 capillary column. Comments:	Extraction Date: 06 Analysis Date: 06 8150 on a PTE-5 capillary column a	6/10/93 6/16/93 and confirmed with a

\*\*Wisconsin DNR Laboratory Certification No. 405099530\*\*

.

-

# ØRTEK

# ENVIRONMENTAL LABORATORY

1609 Western Avenue

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

Green Bay, WI 54307	CLIENT SAMPLE ID: PROJECT JOB #: PROJECT DESC:	BE-WC-02 93W044/WDNR Borgerding Sit <del>e</del>
TELEPHONE: (414) 497-2500         FAX:       (414) 497-8516         ATTENTION: Lanette Altenbach	SAMPLE MATRIX: DATE COLLECTED: DATE RECEIVED:	SOIL 06/04/93 06/05/93
TCLP P	CB/PESTICIDE ANALYSI	<u>S</u>
PARAMETERS	DETECTION LIMITS (mg/L)	CONCENTRATION (mg/L)
Chlordane	0.0025	U
Endrin	0.0005	U
Heptachlor	0.00025	U
gamma-BHC (Lindane)	0.00025	U
Methoxychlor	0.0025	U
Toxaphene	0.025	U
	<b>. . .</b> <u>-</u>	
<ul> <li>Lab Sample ID: 134704</li> <li>Analyzed by modified EPA Method is SPB-608 capillary column.</li> <li>Comments:</li> <li>U = Compound analyzed for but</li> <li>B = Detected in associated method</li> </ul>	Analysis Date: 3080 on a PTE-5 capillary columr : not detected bod blank	06/23/93 and confirmed with a
<ul> <li>Lab Sample ID: 134704</li> <li>Analyzed by modified EPA Method is SPB-608 capillary column.</li> <li>Comments:</li> <li>U = Compound analyzed for but B = Detected in associated method</li> <li>J = Estimated value, concentration</li> </ul>	Analysis Date: 3080 on a PTE-5 capillary column : not detected hod blank tion of analyte below method det	ection limit
<ul> <li>Lab Sample ID: 134704</li> <li>Analyzed by modified EPA Method is SPB-608 capillary column.</li> <li>Comments:</li> <li>U = Compound analyzed for but</li> <li>B = Detected in associated method</li> <li>J = Estimated value, concentrate</li> <li>Analyst: Kum Carmada</li> </ul>	Analysis Date: 3080 on a PTE-5 capillary column to not detected hod blank tion of analyte below method det	ection limit

# **ENVIRONMENTAL LABORATORY** 1609 Western Avenue P.O. Box 12435

COMPANY: Foth & Van Dyke ADDRESS: 2737 S. Ridge Road Green Bay, WI 54307 TELEPHONE: (414) 497-2500 FAX: (414) 497-8561	CLIENT SAMPLE ID: BE-W PROJECT JOB #: 93W PROJECT DESC: Borge SAMPLE MATRIX: SOIL	/C-02 044/WDNR erding Site
ATTENTION: Lanette Altenbach	DATE COLLECTED: 06/0 DATE RECEIVED: 06/0	4/93 5/93
TCLP HERBI	CIDE ANALYSIS	
PARAMETERS	DETECTION LIMITS (mg/L)	CONCENTRATION (mg/L)
2,4-D	0.25	U
2,4,5-TP (Silvex)	0.002	U
<ul> <li>Batch: 9306052</li> <li>Lab Sample ID: 134704</li> <li>Analyzed by modified EPA Method 8150 on SPB-608 capillary column.</li> <li>Comments:</li> </ul>	Extraction Date: 06/1 Analysis Date: 06/1 a PTE-5 capillary column and	0/93 6/93 confirmed with a
U = Compound analyzed for but not dete B = Detected in associated method blan J = Estimated value, concentration of an	ected k nalyte below method detectio	n limit
Analyst: Lin Camper	Date: 6/24/23	
APPROVED: John C 2000 TITLE	GC/ns/EC Syemisor	DATE: 6/24/53
( )		



1609 Western Avenue

P.O. Box 12435

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

ADDRESS: 2737 Gree	& Van Dyke 7 S. Ridge Road n Bay, WI 54307	CLIENT SAMPLE ID: PROJECT JOB #: PROJECT DESC:	BE-WC-03 93W044/WDNR Borgerding Site
TELEPHONE: (414 FAX: (414	) 497-2500 ) 497-8516	SAMPLE MATRIX: DATE COLLECTED: DATE RECEIVED:	SOIL 06/04/93 06/05/93
	TCLP PCE	B/PESTICIDE ANALYSI	S
PARA	METERS	DETECTION LIMITS (mg/L)	CONCENTRATION (mg/L)
Chlordane		0.0025	U
Endrin		0.0005	υ
Heptachlor		0.00025	U
gamma-BHC (Linda	ane)	0.00025	υ
Methoxychlor		0.0025	U
Toxaphene		0.025	U
•Lab Sample ID: •Analyzed by mod SPB-608 capillary	134705 lified EPA Method 80 column.	Analysis Date: 80 on a PTE-5 capillary columr	06/23/93 n and confirmed with a
Comments:			
Comments: U = Compour B = Detected J = Estimate Analyst:	nd analyzed for but no l in associated method d value, concentration	ot detected d blank n of analyte below method det Date: $h/2 + i$	ection limit

COMPANY: Foth & Van Dyke ADDRESS: 2737 S. Ridge Road Green Bay, WI 54307 TELEPHONE: (414) 497-2500 FAX: (414) 497-8561 ATTENTION: Lanette Altenbach	CLIENT SAMPLE ID: BE PROJECT JOB #: 93 PROJECT DESC: Bo SAMPLE MATRIX: SO DATE COLLECTED: 06 DATE RECEIVED: 06	WC-03 W044/WDNR rgerding Site IL /04/93 /05/93
TCLP	HERBICIDE ANALYSIS	
PARAMETERS	DETECTION LIMITS (mg/L)	CONCENTRATION (mg/L)
2,4-D	0.25	U
	0.000	
2,4,5-TP (Silvex)         •Batch:       9306052         •Lab Sample ID:       134705	Extraction Date: 06 Analysis Date: 06	
2,4,5-TP (Silvex) •Batch: 9306052 •Lab Sample ID: 134705 •Analyzed by modified EPA Method & SPB-608 capillary column. Comments:	Extraction Date: 06 Analysis Date: 06 8150 on a PTE-5 capillary column an	/10/93 /16/93 nd confirmed with a
# **ORTEK**

# ENVIRONMENTAL LABORATORY

1609 Western Avenue

(414) 498-2222 (800) 236-4067 FAX (414) 498-4067 Green Bay, WI 54307-2435

P.O. Box 12435

ADDRESS: 2737 S. Ridge Road Green Bay, WI 54307 TELEPHONE: (414) 497-2500	PROJECT JOB #: PROJECT DESC:	BE-WC-04 93W044/WDNR Borgerding Site				
FAX: (414) 497-8516 ATTENTION: Lanette Altenbach	SAMPLE MATRIX: DATE COLLECTED: DATE RECEIVED:	SOIL 06/04/93 06/05/93				
TCLP PCB/PESTICIDE ANALYSIS						
PARAMETERS	DETECTION LIMITS (mg/L)	CONCENTRATION (mg/L)				
Chlordane	0.0025	U				
Endrin	0.0005	υ				
Heptachlor	0.00025	U				
gamma-BHC (Lindane)	0.00025	υ				
Methoxychlor	0.0025	U				
Toxaphene	0.025	U				
<ul> <li>Batch: 9306052 Extraction Date: 06/11/93</li> <li>Lab Sample ID: 134706 Analysis Date: 06/23/93</li> <li>Analyzed by modified EPA Method 8080 on a PTE-5 capillary column and confirmed with a SPB-608 capillary column.</li> <li>Comments:</li> </ul>						
U = Compound analyzed for but not detected B = Detected in associated method blank J = Estimated value, concentration of analyte below method detection limit						
Anaryst. Linn (annolg						
APPRUVED: John C. ( Carts	I IILE: GC MS/EC S pa	DATE: 624 53				

\*\*Wisconsin DNR Laboratory Certification No. 405099530\*\*



\*\*Wisconsin DNR Laboratory Certification No. 405099530\*\*

		TE I		HAIN OF		rod	Y/A	NAL	.YSI	S RI	EQUE	ST F	OR	M /		7			,	7	7	777	
0		E.		. N.	l			Bo	ottle Siz	e/Prese	rvative				/~	Ų –	/	/			/		
Compa	iny Nari	ne: <u>Fo</u>	th q U	an Ny	ee_		-/	5/5	$\langle  $	/ /			/	/ . /	19	3		/ /	' /	/ /	' /	/ / /	
Project	No./Cli	ent: <u>93</u>	SWOULY	/WDN	IR		-/-	72	//				/:			;" :/`;	3			/	/	// 、	
Sampli	ng Loca	ution: <u>B</u>	overdu	ig Site	·	/	-X				/		19	20	1 V	-5	1 /	/ /	/ /	/ /	/ /	/ / "	10.: yZ34
Sample	er:	R. Pav	iosh			-/.\$		Å		//			Z,	Z	F i	5							ORTEK Batch No.
Date	Time	Sar	nple I.D./	/Descript	ion	No No	. of	<u>Ý    /</u> Bott	 les	Total	*Sample Type	f	$\underline{\gamma}$	<u>- / /</u> AN/	Y / ALYS	<u>Y</u> IS R	L EQU	/ JEST	ED	<u> </u>	<u>/</u>	Remarks	1.D. Number
6/4/93	0745	BE-L	10-21							2	Soil	X	X	X	X								134703
	6920	BE-U	JC-0Z		<u>-</u>	1 1	$\top$			Z		1	1	Ì	1								134704
	0945	BE-L	20-03			1 1				Z													134705
	1025	BE-L	NC-04			11				Z	V	V	V	V	$\mathbf{V}$								134706
COMMENT	SPECIAL IN	ISTRUCTIONS;						•SAN	APLE :	TYPE	SW - St	irface '	Water	H-I	Hazard	ous Lie	quid	Date	e reco	eived:	:	15/ 13	DUSU
								SE-	Sedin	nent	WW - W	lastew	ater	0-0	Oil			Quo	tatio	· <u>~</u> / n #: _		(appr	oved by lab)
								SO -	Solid		GW - G	roundv	vater	X - (	Other_			Pure	chas	e orde	er #:		
[] # Po > 5	ppm do TCL							Re	sults	to:	· <u> </u>						_	Billin	ig ad	dres	s: _	2737 S. 6	idge Rd
lo be (	complet		ent					'	Eat	har	lan V	Jule	v-	· G.	3.		-	f	<u>, o .</u>	Bo	x la	901Z	0
Seal intact	upon recei	pt by sampling	ј со.: Ц	res ∐ No								0							Sne	en f	Zan	WI 543	307
Sealed for	shipping by			Seal #				Att	entio	on: _)	_6net	le A	Hten	nacl	L		_	Pho	ne:4	14-4	198-	2500 Fax:	
CUST	ODY TF	RANSFER	75					<b></b>							Shi	ippin	q de	tails	- to I	be co	omple	eted by ORTEK	······································
Relinqui	shed by		Date	Time:	Receiv	ed by:					Date:	1	Time:		Seal	intact	upon	receip	t by la	borato	, bry	[] Yes	□ No
Kaha	[]lino	ch	6-1-13	1545	-				<u> </u>						Meth	hod of	shipm	ent:		<del>sfer</del>	- <u>F</u>	ed -X	1 0
2															Con	tents to	emper	ature	Q.	7-	°C	Retrig. #	)- /-
Received	for laborato	y:			104	4.		ity	<u>.</u>	 (	6/5/9	3	11.	20	0	R.	ТΕ	ΪK			P.O. B Green 414 / 4	ivestern Avenue lox 12435   Bay, WI 54307-2433 198-2222	5

**BioRenewal Technologies, Inc.** 

Facsimile Cover Sheet		read 7.6.95
То:	Russ Janeshek	cc: LLA
Company:	Foth & Van Dyke	RLP1
Phone:	(414)496-6816	
Fax:	(414)497-8516	fele => 93W044
		TB- adams T (8550)
From:	M. Lynn Haugh	E verganet gan a star
Company:	Biorenewal Technologies, Inc.	
Phone:	(608)276-8980	
Fax:	(608)273-6989	
Date: Pages including this	July 1, 1993	
cover page:	4	
If there is a problem with this trans	mission, please call (608) 276-8980	

## Comments:

#### (CONFIRMATION COPY TO FOLLOW VIA MAIL)

Dear Russ,

Here are the results from our comparative enumeration assays for the ten soil samples you sent us in connection with Scope ID 93W044. I have also enclosed an invoice for this project.

Please give me a call if you wish to further discuss these results or have other questions. Thank you for retaining BTI for this project. We look forward to working with you again in the future.

Sincerely.

M. Lynn Haugh Microbial Services Manager

# COMPARATIVE MICROBIOLOGICAL ENUMERATION ASSAY AND NUTRIENT ANALYSIS

#### **REPORT OF RESULTS**

						· · · · · · · · · · · · · · · · · · ·	
Client	Foth & Va	in Dyke			Cl. contact	Russ Janeshe	k
Date of Order	5/25/93				Project #	93W044	
Address					P.O. No.		
Street	2737 S. Ri	igde Road			Date rec'd	6/4/93	
City	Green Bay	/			Date rept'd	6/30/93	
State	WI				BTI Rep	M. Lynn Hau	gh
Zip	54307-901	2			Growth Cond	itions:	~
Site Informatic	n:	· · · ·			Specific Carb	on Source:	Weathered gasoline 1% v/v
Identification:	Borgerdin	g Site			•		or Diesel fuel 1.0% v/v
Contaminants:	Gasoline o	or Diesel			Incubation Te	emperature:	22 degree C
		BF_CFA	BE-CEA	BE-CEA	RE-CEA	BE-CEA	BF-CFA
Sa	umple ID	01G	02D	03D	04D	05AG	05BG
CEA Results		Gasoline	Diesel	Diesel	Diesel	Gazoline	Gaeoline
Total P	opulation						
	Rep 1	8.3E+05	3.6E+06	3.9E+06	2.3E+05	4.9E+05	1.6E+05
	2	9.1E+05	3.2E+06	3.7E+06	2.0E+05	2.2E+05	1.8E+05
	3	7.3E+05	3.5E+06	2.1E+06	2.1E+05	2.3E+05	1.4E+05
	4	7.1E+05	5.6E+06	2.8E+06	1.9E+05	4.1E+05	1.7E+05
	5	#N/A	2.5E+06	2.3E+06	2.3E+05	#N/A	1.2E+05
	Mean	7.9E+05	3.7E+06	3.0E+06	2.1E+05	3.4E+05	1.5E+05
	Std Dev	9.3E+04	1.2E+06	8.1E+05	1.8E+04	1.3E+05	2.4E+04
Coefficient of	Variation	11.8%	31.5%	27.3%	8.5%	39.6%	15.7%
Degradant D	onulation						
Degrader P	Den 1	0.65.04	1.05.06	9 45 105	1.05.04	0.25.05	2 15:04
	Rep 1	2.5E+04	1.9E+05	8.4E+05	1.2E+04	2.3E+05	3.1E+04
	2	2.6E+04	1.9E+05	6.8E+05	1.0E+04	3.1E+05	3.0E+04
	3	3.0E+04	1.9E+05	8.9E+05	7.1E+03	2.0E+05	3.5E+04
	4	3.4E+04	1.2E+05	9.2E+05	6.3E+03	2.4E+05	3.6E+04
		2.6E+04	#N/A	8.6E+05	1.2E+04	2.5E+05	<u>3.4E+04</u>
	Mean	2.8E+04	1.7E+05	8.4E+05	9.4E+03	2.5E+05	3.3E+04
	Std Dev	3.8E+03	3.5E+04	9.6E+04	2.6E+03	3.8E+04	2.4E+03
Coefficient of	Variation	13.6%	20.6%	11.5%	27.3%	15.2%	7.3%
Vutrient Ana	Ivsis						
งของมีของมีของไปกระวัติจึง และไฟมัตร กับกร	рH	NR	NR	NR	NR	NR	NR
Organic N	latter (%)	NR	NR	NR	NR	NR	NR
8	P (ppm)	NR	NR	NR	NR	NR	NR
	K (ppm)	NR	NR	NR	NR	NR	NR
т	KN (ppm)	NR	NR	NR	NR	NR	NR
Aminonium	-N(ppm)	NR	NR	NR	NR	NR	NR
, manomun	Solids (%)	NP	NP	NR	NR	NR	NB
Ľ	$C_{2}$ (nnm)	NP	NP	NR	NR	NR	NR
	Ma(ppin)	NP	ND	ND	ND	ND	NR
Cation Ex /-	neg/100g)	ND	ND	NID	ND	ND	NP
04 Sand 04	Site (Class	INK	ND	INK. ND	ND	INK ND	ND
7054110.705	il Taxture	NK	INK.	INK. ND	INK ND	INK ND	
30	1 1exture	NK	INK	INK			
Remarks: Enumeration	data is repo	rted in colony fo	rming units (cfu's	) / gram of dry	weight soil. Five	replicates were	nH AL I
plated from eac	th sample. #	N/A represents d	lata not available.	-11	- 		11 Junn Haugh
The standard	I limit of det	ection for this as:	say (using five rep	pricates) is 1% t	or nydrocarbon de	egraders relative	Reviewed and approved by:
to the complete	media popu					Ú	M.Lynn Haugh
NR represen	is data not re	equested.					Microbiological Services Manager

## COMPARATIVE MICROBIOLOGICAL ENUMERATION ASSAY AND NUTRIENT ANALYSIS

#### **REPORT OF RESULTS**

Client	Foth & Va	ın Dyke			Cl. contact	Russ Janeshe	k	
Date of Order	5/25/93	-			Project #	93W044		
Address					P.O. No.			
Street	2737 S. R	igde Road			Date rec'd	6/4/93		
City	Green Bay	,			Date rept'd	6/30/93		
State	WI				BTI Rep	M. Lynn Hau	gh	
Zip	54307-901	2			Growth Cond	itions:		
Site Informatio	m:				Specific Carb	on Source:	Weathered gasoline 1% v/v	
Identification:	Borgerding	g Site					or Diesel fuel 1.0% v/v	
Contaminants:	Gasoline o	or Diesel			Incubation Te	mperature:	22 degree C	
		<b>BE-CEA</b>	<b>BE-CEA</b>	<b>BE-CEA</b>	<b>BE-CEA</b>			
Sa	ample ID	06G	<u>06D</u>	07G	07 <b>D</b>			
<b>CEA</b> Results	•	Gasoline	Diesel	Gasoline	Diesel			
Total P	opulation							
	Rep 1	1.6E+06	5.1E+06	6.2E+06	1.3E+06			
	2	1.5E+06	3.6E+06	4.9E+06	1.7E+06			
	3	1.6E+06	4.9E+06	5.5E+06	1.1E+06			
	4	1.7E+06	#N/A	4.1E+06	1.3E+06			
	<u> </u>	#N/A	#N/A	4.6E+06	1.0E+06			
	Mean	1.6E+06	4.5E+06	5.1E+06	1.3E+06	<u> </u>		
Coofficient of	Std Dev	6.9E+04	7.8E+05	8.0E+05	2.5E+05			
Coefficient of	variation	4.3%	17.2%	15.9%	20.0%			
Degrader' P	opulation							
0	Rep 1	1.2E+05	3.4E+05	9.2E+04	1.5E+04			
	2	1.6E+05	2.3E+05	8.0E+04	1.6E+04			
	3	9.4E+04	2.4E+05	5.7E+04	8.0E+03			
	4	6.2E+04	2.2E+05	5.7E+04	1.2E+04			
	5	1.1E+05	2.6E+05	8.0E+04	1.4E+04			
	Mean	1.1E+05	2.6E+05	7.3E+04	1.3E+04			
	Std Dev	3.5E+04	4.9E+04	1.5E+04	3.2E+03			
Coefficient of	Variation	32.4%	18.8%	21.0%	24.3%			
NUTRIENT AND	<b>HYSIS</b>	ND	ND	ND	ND			
Organia N	Antter (%)	NR	NP	NP	NR			
Organic	P (nnm)	NR	NR	NR	NR			
	K (ppm)	NR	NR	NR	NR			
т	KN (ppm)	NR	NR	NR	NR			
Ammoniun	n-N(nnm)	NR	NR	NR	NR			
	Solids (%)	NR	NR	NR	NR			
	Ca(pnm)	NR	NR	NR	NR			
	Mg (ppm)	NR	NR	NR	NR			
Cation Ex (	mea/100g	NR	NR	NR	NR			
%Sand:%	Silt:%Clav	NR	NR	NR	NR			

14 Reviewed and approved by; M.Lynn Haugh

Microbiological Services Manager

Soil Texture

NR

NR

NR

NR

# Attachment 6

Monitoring Well Construction Form and Monitoring Well Development Form

State of Wisconsin Resources Route to: Sol	id Waste 🗍 Haz. Waste 🗍		MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
Facility/Project Name	Local Grid Location of We		Well Name
Borgerding Site - Beloit	fr. 🕂	ft. H.	MW-100
Facility License, Permit or Monitoring Number	Grid Origin Location		Wis Unique Well Number DNR Well Number
	Lat I	.ong or	
Type of Well Water Table Observation Well 11	St Plana f	T 6 F	Date Well Installed
Piezometer 12	Section Location of Waste	/Source	$\frac{0}{2} \frac{6}{2} \frac{1}{2} \frac{9}{2} \frac{3}{2} \frac{3}{2}$
Distance Well Is From Waste/Source Boundary	NEIA CENE 1/4 of Soc	35 m 1 N p 12	Well Installed By: (Person's Name and Firm)
70 <b>ft</b>	NE 1/4 OI INE 1/4 OI Sec.	<u>55, 1. 1. N. K. 12   W.</u>	Rick Panosh
Is Well A Point of Enforcement Std. Application?		Sidegradient	
🛛 Yes 🔲 No	d 🖸 Downgradient	Not Known	Foth & Van Dyke and Assoc.
A. Protective pipe, top elevation0_6	L MSL	1. Cap and lock	Yes [] No
<b>R</b> Well ensuing top elevation $-0.4$ f	L MSL	2. Protective cov	ver pipe:
$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	- 1214	a. Inside diam b. Length:	ter: <u>8.0</u> in. 10 <del>c</del>
		c. Material:	Steel 🔲 04
D. Surrace seal, Douom IL MSL of		Cas	t Aluminum Other 🖾 🎆
12. USCS classification of soil near screen:	24.2	d. Additional	protection?
	5만 [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [	If yes, desc	<b>ribe:</b> Gasket cap w/padlock
			Bentonite 🔲 30
			Concrete 🖾 01
	<b>6</b>	🗰 🔪	Other 🖬 🎆
14. Drilling method used: Rotary	50	4. Material betw	een well casing and protective pipe:
Hollow Stern Auger		· ·	Bentonite 🖾 30
Other Li *			Annular space scal 🔲 🛛
		<u>F</u> :	ilter Sand Other 🖸 🧱
15. Drilling fluid used: Water [] 02 Air []		5. Annular space	seal: a. Granular Bentonite 🛛 33
Druing Mud 🖾 03 None 🛄		bLbs/g	al mud weight Bentonite-sand shurry 🔲 35
16 Drilling additives used?	. 🛛	🗱 cLbs/g	al mud weight Bentonite shurry 🛛 31
		d % Ber	uonite Bentonite-cement grout D 50
Describe		e,	Ft <sup>3</sup> volume added for any of the above
17 Source of water (attack englysic):		f. How install	led: Tremic 🗖 01
Beloit Municipal Hydrant -			Tremie pumped 🔲 02
<u>_Riverside Park</u>	📓		Gravity 🗖 08
		6. Bentonite seal	a. Bentonite granules 🔲 33
E. Bentonite seal, top ft. MSL or	<u>1.2</u> ft 🔛	₿ / b. □1/4 m.	□3/8 in. □1/2 in. Bentonite pellets □ 32
·		e Bento	onite Chips Other 🖸 🎆
F. Fine sand, top ft. MSL or 4	0 <u>6</u> ft 🗙	7. Fine sand mat	erial: Manufacturer, product name & mesh size
		Forma	ation Sand and Gravel
G. Filter pack, top ft. MSL or	NA_ fr_ \E	b. Volume ad	dedft <sup>3</sup>
		8. Filter pack ma	terial: Manufacturer, product name and mesh size
H. Screen joint, top ft. MSL or _ 4	5.0 ft.	Forma	ation Sand and Gravel
		b. Vohrme ad	tiedft <sup>3</sup>
L Well bottom fr. MSL or _ 5		9. Well casing:	Flush threaded PVC schedule 40 🚺 23
		Ű	Flush threaded PVC schedule 80 🔲 24
J. Filter pack, bottom ft. MSL or	NA ft		Other 🖬 💹
-		10. Screen materi	al: PVC
K. Borehole, bottom ft. MSL or $\_$	<u>3.0</u> ft.	L Screen typ	E: Factory cut KI 11
			Continuous slot 🔲 01
L. Borehole, diameter <u>60</u> in.		۹	Other 🛛 🎆
		b. Manufactur	r Northern Aire
M. O.D. well casing $238$ in.		C. Slot size:	<b>0.</b> <u>010</u> in.
		d Slotted len	gth:ft.
N. LD. well casing 200 in.		11. Backfill mater	ial (below filter pack): None 🔲 14
		Format	tion Sand and Gravel Other 🖾 💹
I hereby certify that the information on this	form is true and corr	ect to the best of my l	knowledge.
Signature	Finn		· · · ·
	l · Koth	λ Van Dyka and Aco	Register The

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

#### MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 4-90

Route to: Solid Waste Haz. Waste Wastewater Env. Response & Repair Underground Tanks Other .....

Facility/Project Name	County Name		Well Name	
Borgerding Site - Beloit		Rock	MW-	-1DD
Facility License, Permit or Monitoring Number	$\frac{\text{County Code}}{5 4}$	Wis, Umque Well N	mber DNR We	11 Number
1. Can this well be purged dry?	🗆 Yes 🖾 No	11 Deet to Ware	Before Development	After Development
2 Well development method		(from top of	6 9 0 •	6 9 3 .
2. Well development method	<b>–</b> (1)	well casing)		IL
surged with baller and summed				
surged with block and bailed		Date	. 0 6 . 1 1 . 9 3	0 6 1 1 . 0 3
surged with block and summed			$b = \frac{1}{2} $	
surged with block beiled and rummed		a ser les al ser a	mm a a y y	mm dd yy
commerced air	1 20	Time	-08.05 mm	10.40
bailed only			· ·	
pumped only	<b>D</b> 51	12. Sediment in well	0.0 inches	0,0 inches
pumped slowly	⊠ 50	bottom	Children Children Constants	Comp caning Caling
Other		13. Water clarity	Clear 1 10	Clear E 20
			Turbid 🖾 15	Turbid 25
3. Time spent developing well	<u>120</u> min.		<b>(Describe)</b> Cloudy lt.brn	(Describe)
4. Depth of well (from top of well casisng)	<u>49.6</u> ft			
5. Inside diameter of well	<u>2 0 0 in</u> .			
6. Volume of water in filter pack and well				
casing	10.5 gal			
		Fill in if drilling fluid	is were used and well is a	t solid waste facility:
7. Volume of water removed from well	<u>165.0 gal</u>			1
		14. Total suspended	mg/l	mg/l
8. Volume of water added (if any)	<u> </u>	solids		
9. Source of water added		15. COD	mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)	Yes No	1 .		I

16. Additional comments on development:

Developed w/Brainard-Kilman 1.7" hand pump discharging to 55-gallon steel drums (3). Faint petro odor in development water.

Well developed by: Person's Name and Firm			I hereby certify that the above information is true and correct to the best of my knowledge.				
Name:	Jim Stanley		Signature:	Ruch Parm			
Firm:	WTD Environmental Drilling		Print Initials:	R L P			
		-	Firm:	Foth & Van Dyke and Associates Inc.			

State of Wisconsin Department of Natural Resources Env. Response	id Waste 🔲 Haz. Waste 🕻	] Wastewater [] Ind Tanks [] Other []	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
Facility/Project Name	Local Grid Location of W	/ell	Well Name
Borgerding Site - Beloit	ft =	ft. T.E.	MW-2DD
Facility License, Permit or Monitoring Number	Grid Origin Location		
	Lat	Long. of	
Type of Well Water Table Observation Well [11]	C. M		Date Well Installed
Piezometer (XI 12	SL Pline	<u>n. n n. E.</u>	0.6/1.1/9.3
Distance Well Is From Waste/Source Boundary	Section Location of Wash	e/Source	Mall Installed Big (Provide Margaret Margaret
80 6	<u>NE</u> 1/4 of <u>NE</u> 1/4 of Sec	. <u>35</u> T. <u>1</u> N. R. <u>12</u> W.	Pick Papach
To Well A Doint of Enforcement Std Amplication?	Location of Well Relative	to Waste/Source	
		s 📋 Sidegradient	Foth & Van Dyke and Assoc.
	d 🖾 Downgradient	n 🔲 Not Known	
A. Protective pipe, top elevation $\underline{} \underline{} \underline{} \underline{} \underline{} \underline{} \underline{} f$	i. MSE	1. Cap and lock	
<b>R</b> Well casing top elevation $-0.4$ f	1. MSL	2. Protective co	ver pipe:
	1	a. Inside diam	eter: _80_ in.
C. Land surface elevation $0.0$ f	L MSE	b. Length:	_ <u>1</u> .0_ft.
D. Surface and homen & MSI on 1		c. Material:	Steel 🗖 04
D. Surface seat, boutining it MSL of _1		Ca	st Aluminum Other 🛛 🎆
12. USCS classification of soil near screen:	- 1	d. Additional	protection?
		If yes, desc	<b>ribe:</b> <u>Gasket cap w/padlock</u>
			Bentonite 🗖 30
Hedrock LI		3. Surface seal:	
13. Sieve analysis attached? 🖸 Yes 🖾 N	b 👹		
14. Drilling method used: Rotary	30 👹	4. Material berw	een well casing and protective nine:
Hollow Stem Auger			
Other D			
· · · · · · · · · · · · · · · · · · ·			
15. Drilling fluid used: Water 10.02 Air 11 (	01		i Salid Other M
Drilling Mud KI 0.3 None II	00	5. Annular space	e seal: a. Granular Bentonite 🔲 33
		bLbs/g	al mud weight Bentonite-sand shurry 🔲 35
16. Drilling additives used?	<u>ب</u>	aLbs/g	al mud weight Bentonite shurry 🔲 31
		d% Be	ntonite Bentonite-cement grout 🛛 50
Describe		e	Ft <sup>3</sup> volume added for any of the above
17 Source of water (attack enclusio):		f. How instal	led: Tremie 🗖 01
Beloit Municipal Hydrant -			Tremie pumped 🔲 02
<u>Riverside Park</u>	📓		Gravity 🗖 0.8
		6. Bentonite seal	a. Bentonite manules 17 33
E. Bentonite seal, top ft. MSL or	12 ft.	₩ / h □1/4 in.	13/8 in. 11/2 in Bentonite nellets 1 22
		Benton	ite Chips
F. Fine sand, top ft. MSL or //		7. Fine sand mat	mial: Manufacturar unduct name & math size
		Badger	Mining BB No. 7
G Filter neck ton ft. MSL or 4	23 .		
		D. Volume ad	
tt Camera inites and the MSI or /s		8. Filter pack mi	itenal: Manufacturer, product name and mesh size
		Format	ion Sand and Gravel
T W D Los 5		b. Volume ad	
I. Well bottom		9. Well casing:	Flush threaded PVC schedule 40 🔯 23
			Flush threaded PVC schedule 80 🔲 24
J. Filter pack, bottom ft. MSL orN		£\	Other 🛛 💹
-		10. Screen materi	al:PVC
K. Borehole, bottom ft. MSL or	<u>3.0</u> ft.	a. Screen typ	e: Factory cut 🖾 11
			Continuous slot 🔲 01
L. Borehole, diameter 6.0 in.		<u>هر</u>	Other D
		b. Manufacha	Northern Aire
M. O.D. well casing $238$ in		c. Slot size:	<b>0.</b> 010 in.
		d Sloued len	sth: <u>50 ft</u>
N. LD. well casing 2 0 0 in		11. Backfill mater	ial (below filter nack): None 🗖 1.4
	•	Formati	on Sand and Gravel Other M
I haraby partify that the information of this	form in two and an	root to the hast of	rowledge
		nect to the dest of my	
	Foth	& Van Dyke and Ass	ociates Inc.

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

#### MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 4-90

Route to: Solid Waste Haz. Waste Westewater Env. Response & Repair M Underground Tanks Other

Facility/Project Name	County I	Name	Well Name	0.0.0
Borgerding Site - Beloit	Compre	KOCK	MW	-2DD
Fichtly License, Permit or Montoring Number		4 4 4		at Number
1. Can this well be purged dry?		No II Duch a Nu	Before Development	After Development
2. Well development method surged with bailer and bailed surged with bailer and pumped surged with block and bailed surged with block, bailed and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	11. Depth to wat (from top of well casing) Date Time 12. Sediment in w bottom 13. Water clarity	$ \begin{array}{c} \mathbf{z} = -\frac{7}{1.5} \text{ ft.} \\ \mathbf{b} \frac{0.6}{m \text{ m}} / \frac{1.4}{d \text{ d}} / \frac{9.3}{y \text{ y}} \\ \mathbf{c} = \frac{1}{1} : \frac{1.9}{1.9} \text{ pm.} \\ \mathbf{c} = \frac{0.0}{1.0} \text{ inches} \\ \end{array} $	$ \frac{7}{16} \frac{1}{6} \frac{4}{y} \frac{9}{y} \frac{3}{y}$ $- \frac{1}{2} \frac{5}{50} \frac{1}{50} \frac{1}{50$
<ul> <li>3. Time spent developing well</li> <li>4. Depth of well (from top of well casisng)</li> <li>5. Inside diameter of well</li> </ul>	<u> </u>		Turbid I 15 (Describe) Cloudy 1t.brn	Turbid [] 25 (Describe)
6. Volume of water in filter pack and well casing	<u>10.4</u> gal	Fill in if drilling fl	uids were used and well is a	t solid waste facility:
<ol> <li>Volume of water removed from well</li> <li>Volume of water added (if any)</li> </ol>	<u>1 6 5 . 0 gal.</u> 00 gal.	14. Total suspende solids		mg/l
9. Source of water added		15. COD	mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)		- I · ·	·	1

16. Additional comments on development:

•

. . .

Developed w/Brainard-Kilman 1.7" hand pump discharging to 55-gallon steel drums (3). Faint petro odor in development water.

Well deve	loped by: Person's Name and Firm	I hereby certify that the above information is true and correct to the best of my knowledge.
Name:	Jim Stanley	Signature: Parter Paris
Firm:	WTD Environmental Drilling	Print Initials: <u>KLF</u>
	· _	Firm: Foth & Van Dyke and Associates Inc.

State of Wisconsin Route to: Sol Department of Natural Resources Env. Restorate	id Waste 🛛 Haz. Waste 🗔		MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
Facility/Project Name	Local Grid Location of Wel		Well Name
Borgerding Site - Beloit	fr. es.	ft. W	MW-3DD
Facility License, Permit or Monitoring Number	Grid Origin Location		Wis. Unique Well Number DNR. Well Number
		ong or	
Dierometer	St. Plane ft.	N ft. E.	Date well installed 0 6/09/93
Distance Well Is From Waste/Source Boundary	Section Location of Waste/S	Source	Well Installed By: (Person's Name and Firm)
0 ft.	<u>NE 1/4 of NE 1/4 of Sec.</u>	<u>35. T. I. N. R. 12 D. W.</u>	Rick Panosh
Is Well A Point of Enforcement Std. Application?	u Upgradient s	Sidegradient	
I Yes I No	d 🖸 Downgradient n	Not Known	Forn & Van Dyke and Assoc.
A. Protective pipe, top elevation f	L MSL	1. Cap and lock?	🖸 Yes 🗖 No
B. Well casing, top elevation $-0.4$ f	L MSL	a. Inside diama	erpipe: ter: _8.0 in.
C. Land surface elevation f	L MSL	b. Length:	<u>_1_0_fr.</u>
D. Surface seal, bottom fL MSL or _1	<u>0</u> ft.	C. Malenal Cast	Aluminum Ober 🕅
12. USCS classification of soil near screen:		d. Additional	rotection?
		If yes, desc	Gasket cap w/padlock
		3. Surface seal	Bentonite 🗖 30
13. Sieve analysis attached? II Ver			Concrete 🖾 01
			Other 🛛 🎆
Hallow Stem Auger		4. Millerill Derwi	en well casing and protective pipe:
		Filter	Sand Obr N
15. Drilling fluid used: Water 02 Air 0		5. Annular space	seal: a. Granular Bentonite 33
Drilling Mud 🖸 03 None 🗖 🤅	99	bLbs/g	al mud weight Bentonite-sand shury D 35
16. Drilling additives used?		cLbs/g	al mud weight Bentonite shurry 🗖 31
		d% Ber	tonite Bentonite-cement grout 🔲 50
Describe		e	Ft volume added for any of the above
17. Source of water (attach analysis);		f. How install	ed: Tremie 🗆 01
Beloit Municipal Hydrant - Riverside Park			
E. Bentonite seal. top ft. MSL or	<u>1</u> 2 ft. 🗱	$/h \Box 1/4$ in.	$\overline{\mathbf{X}}_{3/8}$ in $\Box 1/2$ in Bentonite pellets $\Box = 3.2$
		cBent	conite Chips Other KI
F. Fine sand, top ft. MSL or 4	1_0_ft_	7. Fine sand mat	rial: Manufacturer, product name & mesh size
		Badge	er_Mining_BB_No7
G. Filter pack, top ft. MSL or _4.		b. Volume add	ledft <sup>3</sup>
H Sama to MSL or A		8. Filter pack ma	terial: Manufacturer, product name and mesh size
		Red F	int Filter Sand #30
L Well bottom ft. MSL or 56		9. Well casing:	Ensh threaded PVC schedule 40 F3 23
			Fush threaded PVC schedule 80 [1 24
J. Filter pack, bottom ft_ MSL or4	7 0 m		Other 🖬 🐖
-		10. Screen materia	1:PVC
K. Borehole, bottom ft. MSL or _5.	<u>3</u> .0 ft.	a. Screen type	: Factory cut 🖾 11
			Continuous slot 🔲 01
L. Borehole, diameter <u><u>6</u> <u>0</u> in.</u>			Northorn Africa
		b. Manufacture	
		d Slotted lens	th: 5.0 fr.
N. LD. well casing 2 0 0 in		11. Backfill materi	al (below filter pack): None 🛙 14
	•	Formatic	n Sand and Gravel Other 🛱 🎆
I hereby certify that the information on this	form is true and corre	ect to the best of my k	nowledge.
Signature	Firm Foth &	Van Dyke and Asso	ciates Inc
No I a Kland	1	and ABSU	CIUCO IIIC.

And the second se

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

. .

MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 4-90

Route to: Solid Waste Haz. Waste Wastewater Env. Response & Repair Underground Tanks Other

Facility/Project Name	and a state of the state	County Name		Well Name	
Borgerding Site - Beloit			Rock	MW-3D	D
Facility License, Permit or Monitoring Numbe	a 	County Code _ <u>5_4</u>	Wis, Unique Well N	umber DNR We	11 Number
1. Can this well be purged dry?	🗆 Ye	No No	11. Depth to Water	Before Development	After Development
2. Well development method			(from top of	<b>7</b> 5 5 <b>•</b>	758
surged with bailer and bailed	Π 4	1	well casing)	Co	
surged with bailer and pumped	0 6	1			
surged with block and bailed	<b>□</b> 4	2	Date	<b>0</b> 6, 1 0, 9 3	06,10,93
surged with block and pumped	0 6	2		mm dd yy	mm dd yy
surged with block, bailed and pumped	0 7	0	•	- 171 8.m.	it am
compressed air	2	0	Time	c. 0 9: 0 5 pm.	10:36 p.m.
bailed only		0			
pumped only	0 5	1	12. Sediment in well	$\underline{0}$ . $\underline{0}$ inches	$\underline{0}$ . $\underline{0}$ inches
pumped slowly	M 5	Q	bottom		
Other	. 🗆 🛄	<b>1</b>	13. Water clarity	Clear 10	Clear 🖾 20
				Turbid 🖾 15	Turbid 🛛 25
3. Time spent developing well	5	<u>0</u> min.	1	(Describe)	(Describe)
4. Depth of well (from top of well casisng)	49	. <u>6</u> fL		<u>Cloudy Brown</u>	
5. Inside diameter of well	_2.0	<u>) ()</u> in.			
Volume of water in filter neck and well					
casing	1 (	4			and the second second second second second
		· gal.	Fill in if drilling the	te were need and wall is a	t solid wasta faciling
7. Volume of water removed from well	<u> </u>	). <u>0</u> gal.	i in hi ii di ining huk		Solid waste facility:
8. Volume of water added (if any)	0	. <u>0</u> gal.	14. Total suspended solids	mg/l	mg/l
9. Source of water added			15. COD	mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)	🛛 Ya	No			

16. Additional comments on development:

Developed w/Brainard-Kilman 1.7" hand pump discharging to 55-gallon steel drums (2).

Well developed by: Person's Name and Firm			I hereby certify that the above information is true and correct to the best of my knowledge.			
Name:	Jim Stanley		Signature: Mudel Janni			
Firm:	WTD Environmental Drilling		Print Initials: <u>R L P</u>			
	*	-	Firm: Foth & Van Dyke and Associates Inc.			

State of Wisconsin Route to: Sol Department of Natural Resources Env. Response	id Waste 🔲 Haz. Waste 🗆 & Repair 🖾 Underground	Wastewater 🗆 d Tanks 🗔 Other 🗂	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
Facility/Project Name	Local Grid Locanon of We		Well Name
Borgerding Site - Beloit	fr. HS.		MW-11S
Facility License, Permit or Monitoring Number	Grid Origin Location		Wis Unque Well Number DNR Well Number
	Let L	.ong or	
Type of Well Water Table Observation Well [1] 11	St Plene fr	N AF	Date Well Installed 0 6 0 2 0 2
Piezometer 12	Section Location of Waster		
Distance Well Is From Waste/Source Boundary	NET A ANE AND CO		Well Installed By: (Person's Name and Firm)
Unknown fr	<u>NE 1/4 OT NE 1/4 OT Sec.</u>	<u>35, T N. R. [</u> _ W.	Rick Panosh
Is Well A Point of Enforcement Std. Application?	Location of Well Kelanve t	0 Waste/Source	
		KI Not Known	Foth & Van Dyke and Assoc.
		1 Cen end lock	
A. Protective pipe, top elevition $ $	LMOD	2 Deptective con	
B. Well casing, top elevation $-\frac{-0}{4}$ .	t. MSL	a Inside dia	at pipe. 80.
		h Length	$\frac{1}{10}$
C. Land surface elevation $ 0.0$		o. Denguit	
D. Surface seal, bottom ft. MSL or _]	0 ft.		t Aluminum OL T
12 LISCS classification of soil near screen:			
		A Additional	rotecoon U Yes U No
		I yes, desc	nbe: Gasker Cap w/padlock
		3. Surface seal:	Bentonite 🔲 30
13 Sieve snalvsis attached? El Ver			Concrete 🖸 01
			Ober 🛛 🧱
14. Drilling method used: Rotary		4. Material betw	een well casing and protective pipe:
Hollow Stem Auger			Bentonite 🗖 30
			Annular space scal 🔲 🖉
			lter Sand Other 🛛 💆
15. Drilling fluid used: Water [] 02 Ar []		5. Annular space	scal: a. Granular Bentonite 🛛 33
		bLbs/g	al mud weight Bentonite-sand shurry 🔲 35
16 Delling additives used?		cLbs/g	al mud weight Bentonite shurry 🛛 31
		d% Ber	atonite Bentonite-cement grout 50
		č.	Ft <sup>3</sup> volume added for any of the above
	! 📓 🛙	f. How install	ed: Tremic 🛛 01
17. Source of water (anach analysis):			Tremie pumped [] 0.2
			Gravity 🗖 0.8
		6. Bentonite seal	Bentonite granules ET 33
E. Bentonite seal, ton ft. MSL or	12 ft.		$\mathbb{R}$
		Bent	onite Chips
F. Fine sand, top ft. MSL or	NA ft.	7 Fine cand mat	miel: Menufecturer undust name & mash size
		NA	when when a content of product finites of fiteshi size
G Filter nack ton the MSL or	35 ft.	Notes and the second	
	·· \ \}	0. vonime so	
H Samen inint top ft MSL or		8. Filter pack mi	tenal: Manufaculter, product name and mesh size
		Badg	er Mining 20-40 Silica
T Well homen A MSI or	40.	b. Volume an	
		y. well cusing:	Frish unreaded PVC schedule 40 [2] 23
			Flush threaded PVC schedule 80 24
J. Filter pack, bollom IL MSL or	4.2 m	· · · · · · · · · · · · · · · · · · ·	Other 🛛 💹
	7.0.0	10. Screen materi	
K. Borchole, bottom	<u>∠.v</u> ¤∕	a. Screen typ	E: Factory cut 🖸 11
			Continuous slot 🔲 01
L. Borehole, diameter8_0 in.		<u>م</u>	Other 🛛 💹
	•	b. Manufactur	r Northern Aire
M. O.D. well casing <u>2.38</u> in.		c. Slot size:	0. <u>010</u> in.
··· · · · · · · · · · · · · · · · · ·		∖ d. Slotted len	gm: <u>10.0</u> fr.
N. LD. well casing $200$ in.		11. Backfill mater	al (below filter pack): None 14
		Format	ion Gravelly Sand Other 🖾 💹
I hereby certify that the information on this	form is true and corr	ect to the best of my h	knowledge.
Signature D	Fim T-+1	h & Van Dula and	
Mil I Han	. FOU	n « van Dyke and .	ASSOCIALES INC.

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

#### MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 4-90

Route to: Solid Waste Haz. Waste Wastewater Env. Response & Repair & Underground Tanks Other .....

Facility/Project Name	County Name		Well Name	
Borgerding Site - Beloit		Rock	MW-	11S
Facility License, Permit or Monitoring Number	<b>County Code</b>	Wis, Unique Well N	Imber DNR We	11 Number
1. Can this well be purged dry?	Ves 🗆 No	11 Depth to Water	Before Development	After Development
2. Well development method surged with bailer and bailed	<b>□</b> 41	(from top of well casing)	L5.98 ft.	<u>_11.80</u> ft.
surged with bailer and pumped surged with block and bailed	<b>61</b> <b>42</b>	Date	b 0 6 1 1 0 9 3	$\frac{0.6}{1.0}$
surged with block, bailed and pumped surged with block, bailed and pumped compressed air	□ 62 □ 70 □ 20	Time	mm a a y y c. <u>1 7 : 0 3 ⊠ a.m.</u> c. <u>1 7</u> : <u>0</u> 3 ⊠ p.m.	<u>mm dd yy</u> <u>19:35</u>
bailed only pumped only pumped slowly	10 51	12. Sediment in well bottom	inches	inches
Other		13. Water clarity	Clear 🔲 10 Turbid 🖾 15	Clear ☐ 20 Turbid ⊠ 25
3. Time spent developing well	<u>135</u> min.		(Describe) Muddy	(Describe) Cloudy Brown
4. Depth of well (from top of well casisng)	<u>13.6</u> ft		Dark Brown	
5. Inside diameter of well	<u>_2_0_0</u> in.			
<ol> <li>Volume of water in filter pack and well casing</li> </ol>	<u>6.9 gal.</u>	Fill in if drilling fluid	s were used and well is a	t solid waste facility:
7. Volume of water removed from well	<u>5.0gal</u> .	14. Total symended		
8. Volume of water added (if any)	00gal.	solids	' ''''''''''''''''''	
9. Source of water added		15. COD	mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)	Yes No			1
16. Additional comments on development	and a subscription of the second			

Developed w/Brainard-Kilman 1.7" hand pump discharging to 5-gallon pail - combined into Well No. MW-11D 55-gallon well development water drum. Very slow recovery - periodic pumping to dryness.

Well developed by: Person's Name and Firm			I hereby certify that the above information is true and correct to the best of my knowledge.			
Name:	Jim Stanley		Signature: And Parm			
Firm:	WTD Environmental Drilling		Print Initials: <u>R L P</u>			
	•	-	Firm: Foth & Van Dyke and Associates Inc.			

State of Wisconsin Department of Natural Resources Env. Response	id Waste 🛛 Haz. Waste 🗔 & Repair 🖾 Underground	Wastewater 🗆 d Tanks 🗔 Other 🗂	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
Facility/Project Name	Local Grid Location of We		Well Name
Borgerding Site - Beloit	fr. HS.	ft.	MW-11D
Facility License, Permit or Monitoring Number	Grid Origin Location		Wise Umque Well Number DNR Well Number
	Let L	ong or	
Type of Well Water Table Observation Well 11	St Plane fr	N GE	Date Well Installed
Piezometer 🚺 12	Section Location of Wester		$\frac{0}{2} \frac{6}{6} \frac{0}{3} \frac{3}{9} \frac{3}{3}$
Distance Well Is From Waste/Source Boundary	NEW ONE WE A	25 = 1 $1 = 10$ E.	Well Installed By: (Person's Name and Firm)
Unknown ft	$\underline{\mathrm{ME}}$ 1/4 of $\underline{\mathrm{NE}}$ 1/4 of Sec.	<u>33 T. I. N. R. 120 W.</u>	Rick Paposh
Is Well A Point of Enforcement Std. Application?	Location of Weil Relative to	O Waste/Source	
		KI Not Known	Foth & Van Dyke and Assoc.
		1 Can and look	
A. Protective pipe, top elevinon	L MOL	2 Protective and	
B. Well casing, top elevation $-0.3 - 1$	r. MSL	A FIDICELLIVE CON	er pipe:
C. Land surface elevation		b. Lengui:	
D. Surface seal, bottom ft_MSL or _]		C. Material	
12 TISCS classification of sail near commu			
		d. Additional	protection?
		If yes, desc	<b>nbe: <u>Gasket cap w/padlock</u>s</b>
		3. Surface seal:	Bentonite 🔲 30
13 Sieve melveis strached? II Ver			Concrete D 01
			Other 🗖 🎆
14. Drilling method used: Rotary M		4. Material betw	een well casing and protective pipe:
Hollow Stem Auger			Bentonite 🖾 30
Other Li *			Annular space seal 🔲 🛛
		Filt	er Sand Other 🖬 🎆
15. Drilling fluid used: Water LI U2 Air LI		5. Annular space	seal: a. Granular Bentonite 🛛 33
		hLbs/g	al mud weight Bentonite-sand shurry 🔲 35
16 Deilling additions word? El Mar.	👹 🖩	cLbs/g	al mud weight Bentonite shurry 🛛 31
10. Drinning accounters used 1 Li Yes IN	ю	d% Ber	atonite Bentonite-cement grout D 50
			Ft <sup>3</sup> volume added for any of the above
		f How install	
Beloit Municipal Hydrant -			
Riverside Park			Gravity TL AS
		K Rentroite casi	· · · · · · · · · · · · · · · · · · ·
E Bentomite seal, ton fr. MSL or	12 .		
	-·- · · · · · · · · · · · · · · · · · ·	Bent	onite Chips
F. Fine send, top ft. MSL or 1			
	≗⊷∽∽∖∖⊠	Badge	r Mining BB No 7
G Filter neck ton ft. MSL or 1	8 0 <b>f</b> . NB		
		D. VOIEme so	<u></u>
H Sama initia and A MSI or 2		8. Filter pack mi	tenal: Manufacturer, product name and mesh size
		Badge	r Mining 20-40 Silica
1 W/II - 2	5.0.4	b. Vohime ad	ded <u>1.3</u> ft <sup>3</sup>
		9. Well casing:	Flush threaded PVC schedule 40 🔯 23
			Flush threaded PVC schedule 80 🔲 24
J. Filter pack, bottom IL MSL or _2	4.0 m		Other 🛛 💹
		10. Screen materi	<b>d:</b> PVC
K. Borehole, bottom	∠.º ¤∕	🔹 Screen typ	E Factory cut 🚺 11
			Continuous slot 🔲 01
L. Borehole, diameter 6_0 in.		۴ ــــــــــــــــــــــــــــــــــــ	Other 🛛 🎆
		b. Manufactur	r Northern Aire
M. O.D. well casing $238$ in.		c. Slot size:	<b>0</b> . <u>010</u> in.
- A <sup>1</sup>		d Slotted len	gih: _5.0 fr.
N. LD. well casing _ 2 0 _0 in.		11. Backfill mater	al (below filter pack): None 🔲 14
	,	Format	ion Sand and Gravel Other 🖾 💹
I hereby certify that the information on this	form is true and corre	ect to the best of my l	nowledge.
Signature O	Firm		· · · ·
VI 1 Kan	· Foth &	Van Dyke and Ass	ociates Inc.

Þ

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

#### MONITORING WELL DEVELOPMEN<sup>[7]</sup> Form 4400-113B Rev. 4-9(

Route to: Solid Waste Haz. Waste Westewater

Facility/Project Name		County Name	Rock	Well Name	110
Borgerding Site - Beloit			NOCK	MW-	LID
Facility License, Permit or Monitoring Number	r 	<u>_5_4</u>	WIS, LIMQUE WELL N	DNR W	ell Number
1. Can this well be purged dry?	🗆 Ya	No No	11 Dooth to Water	Before Development	After Development
			from top of	863.	966
2. Well development method	-		well casing)		ft
surged with baller and balled		1			
surged with baller and pumped	0 0	1	Des	061003	0 ( 1 0 0 0
surged with block and bailed	0 4	2	Date	b//	06/10/93
surged with block and pumped		2		mm dd yy	mmddyy
surged with block, bailed and pumped		0		1 7 · 1 · - <b>[] 8.m.</b>	1 0 2 0 Em.
compressed air		0	Ime		<u><u>19:30</u>p.m</u>
bailed only		0	10 C-1	0 0 • •	0.0.
pumped only		1	12. Sediment in wei	$\underline{0}$ . $\underline{0}$ inches	$\underline{0}, \underline{0}$ inches
pumped slowly	⊠ 5	0	bottom		
Other			13. Water clarity	Clear 10	Clear 20
				Turbid KI 15	Turbid 🛛 25
3. Time spent developing well	3	<u>5</u> min.		(Describe)	(Describe)
				Cloudy	Slight Yellow
4. Depth of well (from top of well casisng)	24	. <u>7</u> ft.		Lt. Brown	Tint
5. Inside diameter of well	_2.0	<u>) ()</u> in.			
o. Volume of water in filter pack and well	6	1 .			
casing		. · <u> </u>			
7. Volume of water removed from well	65	0	Fill in it drilling this	ds were used and well is a	it solid waste facility:
	ernes ernes ernes		14 Total suspended	me/l	mall
8. Volume of water added (if any)	0	. <u>0</u> gal.	solids		
9. Source of water added			15. COD	mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)	🗆 Yes	No			ļ ,

#### 16. Additional comments on development:

.

Developed w/Brainard-Kilman 1.7" hand pump discharging to 55-gallon steel drums (2). Faint petro odor in development water.

Well developed by: Person's Name and Firm		I hereby certify that the above information is true and correct to the best of my knowledge.				
Name:	Jim Stanley	Signature: Aircul Acris				
Firm:	WTD Environmental Drilling	Print Initials: <u>R L P</u>				
		Forth & Van Dyke and Associates Inc.				

sconsin Resources Route to: Sol	id Waste 🗍 Haz. Waste		MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
bject Name	Local Grid Location of	Well	Well Name
rding Site - Beloit	ft. H	<u>s.                                    </u>	MW-11DD
cense, Permit or Monitoring Number	Grid Origin Location		Wis. Unique Well Number // DNR Well Number
	f.at	_ Long	. ar
Well Water Table Observation Well 11	St. Plane	_ fl. N, fl.	E. Date Well Installed 0 6 / 1 0 / 9 3
Well la Emm Watte/Source Boundary	Section Location of Wa	ste/Source	
Inknown	<u>NE 1/4 of NE</u> 1/4 of S	ec. <u>35</u> T. <u>1</u> N, R. <u>12</u>	W. Rick Panosh
A Point of Enforcement Std. Application?	Location of Well Relati	ve to Waste/Source	
KIYes DNo	d [7] Downstradient		Foth & Van Dyke and Assoc.
otective pipe, top elevation0_0_f	t MSL	1. Cap and lo	ck?
	MSI	2. Protective	cover pipe:
ell casing, top elevation $$		a. Inside di	ameter: _8.0_ in.
and surface elevation $\underline{} \underline{} \underline{} 0$ f	LMSL	b. Length:	<u>_1_0_fr.</u>
urface seal, bottom fr. MSL or $1$	<u>0</u> fr.	c. Materia	L Steel 🖸 04
USCS classification of soil near screen:		d Addition	
GP II GM II GC II GW II SW II S	SP []	If yes, d	errie Gasket cap w/padlock
SM D SC D MLD MHD CL D O	жа ХШ		Bentonite II 30
Bedrock 🗆		'3. Surface sea	
13. Sieve analysis attached? 🔲 Yes 🖾 N	b 👹		Other D
14. Drilling method used: Rotary 🖾	۶O	4. Material be	tween well casing and protective pipe;
Hollow Stem Auger 🔲 🛔	11		Bentonite 🗖 30
Other 🛛 🏶			Annular space scal 🔲 🦉
15 Detting duid made Warry D 02 At D	🛛 📓	Filt	ter Sand Other 🖾 🎆
Drilling Mud [5] 0.2 Norre 17		5. Annular sp	ace seal: a. Granular Bentonite 🛛 33
		bLb	s/gal mud weight Bentonite-sand shurry 🔲 35
16. Drilling additives used? 🔲 Yes 🔣 N	ъ 👹	eLb	s/gal mud weight Bentonite slurry 🔲 31
		d%	Bentonite Bentonite-cement grout 50
Describe		e	rt volume added for any of the above
17. Source of water (attach analysis):			
Riverside Park			
		6. Bentonite s	eal: a Bentonite granules [7] 3.3
E. Bentonite seal, top ft. MSL or	<u>1</u> 2 ft	b □1/4	in. $\Box$ 3/8 in. $\Box$ 1/2 in. Bentonite pellets $\Box$ 3.2
		Bent	conite Chips Other KI
F. Fine sand, top ft. MSL or _4	1.0 tr	7. Fine sand :	naterial: Manufacturer, product name & mesh size
		Bad	lger Mining BB No. 7
G. Filter pack, top ft. MSL or _4	3.0 1 1	b. Volume	added 0.4 ft <sup>3</sup>
		8. Filter pack	material: Manufacturer, product name and mesh size
H. Screen joint, top ff. MSL or _ 4	2.0 m	Red	Flint Filter Sand #30
T Wellsmann A MCI on 5		b. Vohume	$\frac{1.3}{1.1} \text{ ft}^3$
	III		g: Firsh threaded PVC schedule 40 [2] 23
I Filter nack bottom ft. MSL or 4			
K. Borehole, bottom ft, MSL or 5	30 ft		
	[]		Continuous slot
L. Borehole, diameter 6 0 in.			
		b. Manufac	Northern Aire
M. O.D. well casing $238$ in.		c. Slot siz	e: 0. <u>010</u> in.
• -		d Slotted	length: _5_0 ft.
N. I.D. well casing <u>200</u> in.		11. Backfill ma	uterial (below filter pack): None 🗆 14
	————————————————————————————————————	rorma	tion sand and Gravel Other 🖸 🧱
I hereby certify that the information on this	form is true and c	correct to the best of m	y knowledge.
Stantine Production of the standard stand Standard standard sta	r mm	Foth & Van Dyke a	nd Associates Inc.
		-	

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

State of Wisconsin Department of Natural Resources MONITORING WELL DEVELOPMEN. Form 4400-113B Rev. 4-90

Route to: Solid Waste Haz. Waste Wastewater

Facility/Project Name Borgerding Site - Boloit		County Name	Rock	Well Name	מתו ו
Facility License, Permit or Monitoring Number	r	County Code <u>5</u> 4	Wis, Unique Well N	umber DNR W	al Number
1. Can this well be purged dry?		E No	11 Death to Water	Before Development	After Development
2. Well development method surged with bailer and bailed surged with bailer and pumped surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other	4 6 4 0 0 0 0 1 5 5	1 1 2 2 0 0 0 1	<ul> <li>11. Depin to water (from top of well casing)</li> <li>Date</li> <li>Time</li> <li>12. Sediment in well bottom</li> <li>13. Water clarity</li> </ul>	<b>a</b> $-\frac{8}{m} \cdot \frac{5}{7} \cdot \frac{7}{m} \cdot \frac{1}{d} \cdot \frac{9}{y} \cdot \frac{3}{y}$ <b>a</b> $-\frac{1}{2} \cdot \frac{3}{5} \cdot \frac{5}{2} \cdot \frac{3}{p} \cdot 3$	$\frac{8.62}{m m d d y y}$ $\frac{0.6}{1.1} \frac{1}{9.3}$ $\frac{1.3}{0.0} \sum_{x} pm$ $\frac{0.0}{x} pm$
<ol> <li>Time spent developing well</li> <li>Depth of well (from top of well casisng)</li> <li>Inside diameter of well</li> </ol>	<u>6</u> <u>49</u> 2 (	<u>5</u> min. . <u>6</u> ft.		Turbid 🖾 15 (Describe) Cloudy Lt. Brown	Turbid 25 (Describe)
<ol> <li>Volume of water in filter pack and well casing</li> <li>Volume of water removed from well</li> </ol>	<u>_10</u>	<u>. 2</u> gal	Fill in if drilling fluid	ls were used and well is a	t solid waste facility:
8. Volume of water added (if any)	0	. <u>O</u> gal.	14. Total suspended solids	mg/l	mg/l
9. Source of water added			15. COD	mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)	🛛 Yes	No No	1		I

### 16. Additional comments on development:

.

• • •

.

Developed w/Brainard-Kilman 1.7" hand pump discharging to 55-gallon steel drums (3). Faint petro odor in development water.

Well developed by: Person's Name and Firm		I hereby certify that the above information is true and correct to the best of my knowledge.		
Name:	Jim Stanley	Signature: Ander Parcon		
Firm:	WTD Environmental Drilling	Print Initials: <u>R L P</u>		
_	· ·	- Fim: Foth & Van Dyke and Associates Inc.		

De Grippe Gereiter Stop

FintActualState of Wisconsin1993 JUL 26 PH 3: 55 DEPARTMENT OF NATURAL RESOURCES<br/>Box 7921<br/>Madison, Wisconsin 53707

#### INVOICE FOR PROFESSIONAL SERVICES

PROJECT Bogerding Site Investigation

REQUEST NO. 1

PROJECT NO. 93 LU110

LOCATION Beloit, Wisconsin

CONTRACT NO.3783

		· · · · · · · · · · · · · · · · · · ·	Total Fee Due To Date	Previously Submitted	Payment Due This Invoice
If "lump sum" contract:				· · · · ·	
Original Contract Sum					
Change Orders (List Separately)					
Total Contract To Date					
If "hourly basis" contract:	\$ 87.07	5	\$ 46 879.85	0	\$ 46 879 85
Maximum contract amount	3 00		φ 40,077.05	Ū	φ 40,079.05
Change Orders (List Separately) $\#^{\perp}$					
(Attach itemized listing)					
Other Charges to contract:					
Additional Services: (Attach itemized listing)					
Reimbursable Expenses		<b>_</b>			
(Attach itemized listing)					
L					
		TOTALS	\$ 46,879.85		\$ 46,879.85

Foth & Van Dyke Firm Name

27	37 S. Ridge	Road, Green Bay, Wi	sconsin
		Address	
Rv	Lanette	Altenbach	7/21/93
-/ _		Firm Representative	e Date

Project Manager Approval

Program Coordinator Approval

Date

State of Wisconsin DEPARTMENT OF NATURAL RESOURCES Box 7921 Madison, Wisconsin 53707

#### INVOICE FOR PROFESSIONAL SERVICES

#### PROJECT Bogerding Site Investigation

REQUEST NO. 1

LOCATION Beloit, Wisconsin

CONTRACT NO.3783

PROJECT NO. 93 LU110

		Total Fee Due To Date	Previously Submitted	Payment Due This Invoice
If "lump sum" contract:				
Original Contract Sum				
Change Orders (List Separately)				
	·			
				1
Total Contract To Date				
If "hourly basis" contract:				
Maximum contract amount	\$ 87,075	\$ 46,879.85	0	\$ 46,879.85
Change Orders (List Separately) $^{\#1}$	3,005			
	•			
(Attach itemized listing)				
Other Charges to contract:			· · · · · · · · · · · · · · · · ·	
Additional Services: (Attach itemized listing)				
Reimbursable Expenses (Attach itemized listing)				
<b>L</b>	TOTALS	\$ 46,879.85		\$ 46,879.85

THIS IS TO CERTIFY THAT The Firm named herein is entitled to a payment of  $\frac{9}{40,899,85}$ 

Project Manager Approval

93

Program Coordinator Approval

Date

Foth & Van Dyke Firm Name

2737 S. Ridge Road, Green Bay, Wisconsin Address

Lanette Altenbach 7/21/93 By

Firm Representative

Date

# Foth & Van Dyke

Green Bay, WI
Madison, WI
Milwaukee, WI
Minneapolis, MN
St. Louis, MO
Chicago, IL

414/497-2500 608/238-4761 414/359-2500 612/942-0396 314/434-5700 708/810-9119



#### WISCONSIN DEPARTMENT OF NATURAL RESOURCES P O BOX 12436 MILWAUKEE WI 53212

**Invoice No:** 0054501

Date: July 23, 1993

Job No: 93W044

#### GMS/LLA/WDNR

TERMS: Fayable Opon Receipt - Interest Charged on Onpa	liu Dalance.	
For professional services in connection with Borgerding Site Investigation.		
Services performed through July 22, 1993		
DATA RVW/WASTE CHARACTERIZATION		
Services Performed	\$2,165.72	
Mileage	\$120.00	
Bears Photo Inc	\$5.08	
Oneida Environmental	\$3,887.00	
Communication Services	\$32.39	
PC Services	\$12.00	
		\$6,222.19
BORGERDING FIELD WORK		
Services Performed	\$9,622.35	
Mileage	\$67.84	
Employee Expenses	\$88.01	
Biorenewal Technologies Inc	\$1,822.75	
Federal Express Corporation	\$211.88	·
Mayfair Rent A Car Inc	\$895.35	
Oneida Environmental	\$1,449.00	
LongYear Company	\$23,263.57	
Communication Services	\$11.91	
Office Expenses	\$6.20	
		\$37,438.86
BORGERDING SITE REPORT		
Services Performed	\$3,163.00	
Plotting Services	\$4.00	
Communication services	\$6.30	
CADD Services	\$42.50	
Office Expenses	\$3.00	
		\$3,218.80
TOTAL AMOUNT DUE		\$46,879.85

# TERMS: Payable Upon Receipt - Interest Charged on Unpaid Balance

# Foth & Van Dyke

Green Bay, WI
Madison, WI
Milwaukee, WI
Minneapolis, MN
St. Louis, MO
Chicago, IL

P O BOX 12436

MILWAUKEE WI 53212

۰.

414/497-2500 608/238-4761 414/359-2500 612/942-0396 314/434-5700 708/810-9119

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

	R	ł	E,	Ν	1	Ľ	Г	I	C	)	:		2	1							- j	8	ŝ					1									ł,							ŝ	÷			- 3	÷.			
ì,														2		Ľ	Ξ.					Ľ,													З,				C									8		<u>.</u>	ě,	j.
	¢										Û	ż		ė		١.			1	P	1	C	)	-	Ŧ	3	Ö	à	Ċ	1	ç	)(	)	1	2		j.	3					31	ě.		2		2				
			8						Y	0			3		ć	Ć				ŀ,	ō	ĩ					5			•		5	٦.,	ē	_	2	S.						20	Y						2		ì
ì	ý				ě.		1			4	ċ	Ş	č				÷	Ĩ,	(	G	1	•	2	e	r	Ĺ	E	3	à	Ý	Č.	۱	٨	/1	Ľ	1	5	4	3	6	)7	7.	g	1	)1	13	2					
																				_			-								•	- 2	-				-		_				-									

Invoice No: 0054501

Date: July 23, 1993

Job No: 93W044

GMS/LLA/WDNR

# **TERMS:** Payable Upon Receipt - Interest Charged on Unpaid Balance.

For professional services in connection with Borgerding Site Investigation.		
Services performed through July 22, 1993		×.
DATA RVW/WASTE CHARACTERIZATION		
Services Performed	\$2,165.72	l
Mileage	\$120.00	
Bears Photo Inc	\$5.08	
Oneida Environmental	\$3,887.00	
Communication Services	\$32.39	
PC Services	\$12.00	
		\$6,222.19
BORGERDING FIELD WORK		
Services Performed	\$9,622.35	
Mileage	\$67.84	
Employee Expenses	\$88.01	
Biorenewal Technologies Inc	\$1,822.75	
Federal Express Corporation	\$211.88	
Mayfair Rent A Car Inc	\$895.35	
Oneida Environmental	\$1,449.00	
LongYear Company	\$23,263.57	
Communication Services	\$11.91	
Office Expenses	\$6.20	
		\$37,438.86
BORGERDING SITE REPORT		
Services Performed	\$3,163.00	
Plotting Services	\$4.00	
Communication services	\$6.30	
CADD Services	\$42.50	
Office Expenses	\$3.00	
		\$3,218.80
TOTAL AMOUNT DUE		\$46,879.85

Fitnested 09:17:32 07/20/92 by SUDZINGMI J  $F_{\rm c}$  FV

Prepared 09:17:34 07/22/53 PAGE 1

50

PH ယ္ပ ភ ភូភូ 65 [11

RECORDED COSTS THROUGH 7/22/97 - INVOICE #: 54501

INVOICE SUPPLEMENT - BILLABLE COSTS (BL060)

CLIENT: SCOPE ID: BILLING LINE #:	WBNR 93N044 01	WISCONSIN DEFARIMENT BORGERDING SITE INVEN DATA RVW/WASTE CHARA	CF SITGATION CTERIZATION			CLIENT LIAISON: SCOPE LIAISON: BILLING METHOD:	GM3 Lla 3	GARY M SIKICH LANETTE L ALTENPACH	
		COST 1	DATES	Labor					
		FROM	<u> </u>	HOURS	TOTAL \$				
CUTITH & SCHIEL		5/11/93	5/11/93	.5	18.70				
COBEFH F SIUDZINS	μĪ	4/26/93	4/26/93	1.0	51.00				
KIM M WILL		5/12/93	5/12/93	.5	15.73				
LANZITE L'ALTENSA	Ch	4/22/93	5/21/93	10.0	814.49				
NANCH A JAKUPS		5/12/93	5/24/93	1.0	41.14				
RICHARD L FANGER		5/04/93	5/20/93	18.5	1,224.66				
TOTAL LADOR # # #	* * * 4	* * * * *		31.5	2, 165. 72	¥			
MILEAGE		5/04/93	5/20/93	375 MILES	120.00				
PEARS PHOTO INC		6/05/93	6/05/93		5.08				
DNEIDA ENVIRONMEN	ITAL	6/14/93	6/28/93		3,887.00				•
COMPUNICATION SER	VICES	5/11/93	5/17/93		32.39				
PC SERVICES		5/12/93	5/12/93		12.00				
TOTAL EXPENSES &	OTHER CC	STS * * *			4,056.47	¥			
TOTAL SUFPLEMENT	CHERGES	* * * * *			6,222.19	**			<b>6661</b>

Fedlested 00:17:30 07/02/03 by BIUDZINGKI J F - FV

· · · ,

· •

Prepared 09:17:34 07/22/93

PAGE 2

. .

INVOICE SUPPLEMENT - BILLABLE COSTS (BL000) RECORDED COSTS THROUGH 7/22/93 - INVOICE #: 54501

CLIENT: WENG ( SCOPE ID: 93W244 ) BILLING LINE #: 02	WISCONSIN DEPARTMENT OF BORGERDING SITE INVESITGATION BORGERDING FIELD WORK			CLIENT LIAISON: SCOPE LIAISON: BILLING METHOD:	GMS LLA 3	GARY M SIKICH LANETTE L ALTENBACH
	COST DATES	LABOR	*****			
	FROM TO	HOURS	TOTAL \$			
JANET E FORREST	5/26/93 5/26/93	1.0	28.35			
TONELLE T DILENBOUN	5/24/93 6/17/93	13.0	1,058,85			
SICHORD F PONDER	4/25/93 6/17/93	113.0	8,357.63			х.
RUSSELL T JANESHEK	5/25/93 5/26/93	1.5	157.32			
TOTAL LABOR # # # # # # # #		128.5	9,612.15	¥		
MILEAGE	5/26/93 6/14/93	212 MILES	67.84			
EMPLOYEE EXPENSES	6/04/93 6/11/93		88.01	•		
BIORENEWAL TECHNOLOGIES IN	6/30/93 6/30/93		1,822.75			
FEDERAL EXPRESS CORFORATIO	6/10/93 6/10/93		211.88			
MAYFAIR RENT P CAR INC	6/11/93 6/11/93		895.35			
ONEIDA ENVIRCIMENTAL	6/07/93 6/07/93		1,449.00			
LONGYEAR COMPANY	6/30/93 6/30/93		23, 263. 57			
COMMUNICATION SERVICES	5/28/93 5/28/93		4.68			
TOTAL EXPENSES & OTHER COS	TS ≠ + +		27, 803. 08	ŧ		
TOTAL SUPPLEMENT CHARGES			37, 415. 23	<del>K F</del>		

Prepared 09:17:34 07/22/93 FAGE 3

INVOICE SUPPLEMENT - BILLABLE COSTS (BL080) RECORDED COSTS THROUGH 7/22/93 - INVOICE #: 54501

CLIENT WONE WISCONSIN DEPARTMENT OF CLIENT LIAISON: GMS GARY M SIKICH SCOPE ID: LLA LANETTE L ALTENBACH 92W044 BORGERDING SITE INVESITGATION SCOPE LIAISON: BILLINE LINE #1 02 BORGERDING FIELD WORK BILLING METHOD: 3 --- CCST DATES ----LABOR FROM TO HOURS TOTAL \$ JESEPH F STUTZINSKI 6/17/93 6/17/93 10.20 .2 TOTAL LABOR \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* 10.20 \* .2 7.23 COMMINICATION SERVICES 5/17/93 7/15/93 7/09/93 7/09/93 6.20 OFFICE EXPENSES 13.43 \* TOTAL EXPENSES \$ OTHER COSTS # # # 23.63 \*\* TOTAL SUPPLEMENT CHARGES + + + + +

VONE

WISCONSIN DEPARTMENT OF

93W344 PORGERDING SITE INVESTIGATION

CLIENT:

. '

SCOPE 10:

# Prepared 09:17:34 07/22/03

INVOICE SUPPLEMENT - BILLABLE COSTS (BL080) RECORDED COSTS THROUGH 7/22/93 - INVOICE #: 54501

> CLIENT LIAISON: EMS GARY M SIKICH SCOPE LIAISON: LLA LANETTE L ALTENBACH BILLING METHOD: 3

BILLING LINE #: 04 BORGERDING	SITE REFO	RT			BILLING METHOD:	3		
PILLY B VANG	COST FROM 7/14/93	DATES TO 7/14/93	LABOR HOURS 3.0	<u>total 1</u> 102.27				
LONGUL A CHAMAINE LONETTE L ALTENBACH LOUREL BEATY RICHARD L PANOSH	7/15/93 7/14/93 7/08/93 6/24/93	7/15/93 7/15/93 7/14/93 7/16/93	5.0 4.0 6.5 32.0	141.55 325.90 223.79 2,369.59				
TOTAL LABOR * * * * * * * * * * * * *			50.5	3, 163. 00	¥			
FLOTTING SERVICES COMMUNICATION SERVICES CADD SERVICES OFFICE EXPENSES	7/14/93 6/17/93 7/14/93 7/08/93	7/15/93 6/17/93 7/14/93 7/08/93		4.00 6.30 42.50 3.00				
TOTAL EXPENSES & OTHER COSTS * * *				55.80	Ŧ			
TOTAL SUPPLEMENT CHARGES * * * * *				3,218.80	**			