



ENVIRONMENTAL & REGULATORY SERVICES
101 West Pleasant Street Suite 205
Milwaukee, Wisconsin 53212
Fax: (414) 220-5374
www.commerce.state.wi.us

Tommy G. Thompson, Governor Brenda J. Blanchard, Secretary

May 21, 1999

J. Thomas Ravn Serigraph, Inc. 3801 E. Decorah Rd. West Bend, WI 53095

RE: COMMERCE # 53095-4050-60A

Serigraph, Inc., 760 Indiana Ave., West Bend, WI 53095

Petroleum impacts associated with former ASTs on northwest portion of property

Case Closure

Dear Mr. Ravn:

This letter acknowledges receipt of monitoring well/sump abandonment documentation. The above-referenced site will now be listed as "closed" on our computer database, as described in my letter dated April 5, 1999.

Note: the PECFA claim number listed on Advent's correspondence is incorrect. Please note the correct claim number listed above and use it on future correspondence with the PECFA program.

Thank you for your efforts in the protection of the environment. If you have any questions, you can reach me at (414) 220-5372.

Sincerely,

Nancy S. Kochis Hydrogeologist PECFA Site Review Section

cc: Pete Pavalko, Advent Environmental

electronic case file

#### **Letter Of Transmittal**

Type of Submittal:

LUST \_\_ERP \_\_VPLE \_\_ other (describe):

To:

WANCY K och! S
Program Assistant/BRR Program WDCOM
Wisconsin Dept. of Natural Resources Box 12436
2300 N. Dr. Martin Luther King Jr. De. 121 W. Planty FOR:
Milwaukee, WI 53212
Suite 205

Check type(s) of documents enclosed. Submittals are tracked & filed based on information you provide. Include FID & BRRTS numbers assigned to this site. Identify the intent of document(s) you are submitting in order to speed processing. Please attach required fees to this form.

FROM: Name Peter E. Pavalko

Company Advent Environmental Svc.

Address PO Box 277

Mequon WI 53092-0277

RECTIVED

Phone 414-238-1998

MAY 18

Date Serier Aph 3

PECFA SITE RE

Address 760 FNDINA AVE

WEST BEND WI 53095

FID#: 267083 850

BRRTS#: 03-67-001408

PECFA 4: 53095-4036-60

Are you requesting Department Review? Y N 🗵

1	TYPE OF DOCUMENT/REPORT	FEE	DNR (office use CODE only)		
	Notification of Release	none	01		
	Tank Closure/Site Assessment where release(s) have been detected	none	33		
	Site Investigation Workplan	\$500 if review is requested	35, 135~		
_	Site Investigation Report	\$750 if review is requested	37,		
	groundwater impacts above ES		137~, 76,		
	no groundwater impacts or gw impacts below ES (if petroleum transferred to Department of Commerce)	water impacts or gw impacts below ES (if petroleum constituents only, case will be			
	Request to Transfer Case to Department of Commerce	none	76		
	Off-Site Determination Request	\$500 mandatory	638~		
	Remedial Action Options Plan	\$750 if review is requested	39, 143~		
	NR 720.19 Site Specific Clean-Up Goal Proposal	\$750 if review is requested	67, 68~		
	ND 718 Landspreading Request	\$500 mandatory	61~		
	"Notification to Treat or Dispose" of Contaminated Soil/Water	none	99		
	Injection/Infiltration Request	\$500 mandatory	63~		
	Quarterly Report or Update	\$500 if review is requested	43, 43~		
	O & M Form 4400-194	\$300 if review is requested	92, 192~		
	Remedial Action Options Report	\$750 if review is requested	41, 41~		
	Closure Review Request	\$750 mandatory	79~		
	NR700.11 Simple Site Closure Request	\$250 mandatory	183~		
	"Draft Deed Affidavit" or "Restriction required for close-out"	none	99		
X	"Well Abandonment Forms"	none	99		
-	Remedial Design Report	\$750 if review is requested	147, 148~		
	Construction Documentation Reports	\$250 if review is requested	151, 152~		
	Long Term Monitoring Plan	\$300 if review is requested	24, 25~		
	Voluntary Party Liability Exemption (VPLE) Application	\$250 mandatory	662		
	VPLE "Phase I/II Assessments" or "Additional Reports"	computed hourly	99		
	Tax Cancellation Agreement	\$500 mandatory	654		
	Negotiated Agreement	\$1000 mandatory	630		
	Lender Assessment	\$500 mandatory	686		
	Negotiation and Cost Recovery (municipalities only)	fee for each service, mandatory	90~		
	General Liability Clarification Request	\$500 mandatory	684		
	Lease Letter Request - Single Property	\$500 mandatory	646		
	Lease Letter Request -Multiple Properties	\$1000 mandatory	646		
	Request for Other Technical Assistance	\$500 mandatory	90~		
	Other (please describe)				

\* Closure reports for sites where no releases have been detected should be sent directly to "Clean Closures" c/o DNR Remediation &

Redevelopment Program, P.O. Box 7921, Madison WI 53707
Remarks: PLS. LOG CASE on Closed on your Date Bere Throll

16- Day Day Contact

letter of transmittal.doc 2/24/99

Pet

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5B Rev. 8-89

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) FACI			·	
	Well/Drillhole/Borehole Cou	•		Original Well Owner (If Known)				
	Location	Washingtor		SERIGRAPH				
	<u>SE</u> 1/4 of <u>S</u> 1/4 of Sec. 13	3 ; T 12 ; R. 19E	E	Present Well Ownér Serigraph - 95036.02				
	(If applicable)	, , , <u>12</u> , N. <u>13L [</u>		Street or Route				
	Gov't Lot	Grid	d Number			enue, West Be	end, WI 53095	
	Grid Location				ate, Zip Cod			
	nt. ∏N. ∏s.				Bend, WI			
	Civil Town Name			Facility		nd/or Name (If A	pplicable)	WI Unique Well No.
					MW			
	Street Address of Well 760 Indiana Avenue, West Bend	WI 53005		Reason	For Aband	onment	Fract Co.	- Medel
	City, Village	, 11 33033		Date of	Abandonm	ent '	EMED. COM	pretea
	West Bend, WI 53095					5-	17-99	
	L/DRILLHOLE/BOREHOLE INF							
(3)	Original Well/Drillhole/Borehole Constr	•		(4) Depth t	o Water (Fe	eet) <u>~/o</u>		
	(Date) 9-6-9/	/	_	Pump 8	& Piping Re	moved?	Yes No	Not Applicable
	•		_	Liner(s	Removed?	ı	Yes No	Not Applicable
	Monitoring Well Con	struction Report Availab	le?	Screen	Removed?		Yes X No	Not Applicable
1	Water Well	Yes No		Casing	Left in Plac	e?	X Yes No	_
	Drillhole	WDNR 4400-122		If No, E	xplain			
į	Borehole			<u> </u>				-
					_	ff Below Surface	?	X Yes No
	Construction Type:	🗖-			-	I Rise to Surface	e?	Yes No
	Drilled Driven (Sandp	oint) Dug				After 24 Hours?		Yes X No
	Other (Specify)		-	If Yes, Was Hole Retopped?				∐Yes ∐No
						f Placing Sealing		
	Formation Type:			<u> </u>	ductor Pipe-	Gravity	Conductor Pipe-	•
	Unconsolidated Formation	Bedrock	_	Dum	p Bailer		Other (Explain)	Gravity
	Total Well Depth (rt.) 15.5 Cas	ing Diameter (ins.)	$\mathbb{Z}$	(6) Sealing	Materiale		For monitoring well	s and
	(From groundsurface)	_		Neat	Cement Gr	out	monitoring well bor	eholes only
				Sand	d-Cement (C	Concrete) Grout		•
	Casing Depth (ft.) N/A			Cond			Bentonite Pellets	
			,		-Sand Slurry		Granular Benton	
	Was Well Annular Space Grouted?	☐Yes ☒ No ☐	Unknown		onite-Sand S	- ,	Bentonite-Ceme	nt Grout
	If Yes, To What Depth?		Feet	Chip	ped Bentoni			
(7)	Sealing Mate	orial I lead		From (Ft.)	To (Ft.)	No.Yards, Sacks, Sealant	Mix Ratio	or Mud Weight
(7)	ocaning Make	chui Osea		110111 (1 4.)	10 (1.1)	or Volume	(VIIX TCGIO	or mad troight
	Bentonite			Surface		,		
	Bentonite			Surface	15.5			
(B)	Comments: Advent Project #	95036.02			<u> </u>		<u> </u>	
(0)	Advent Project #	93030.02	<del></del>	<del></del>				<del></del>
(9)	Name of Person or Firm Doing Sealing	Work		(10)		FOR	ONR OR COUNTY U	SE ONLY
	Advent Environmental Services,				Received/in	spected	Distric	t/County
	Signature of Person Doing Work	Date Signed						
	Peter E. Pavalko	5-17-	79	Revi	ewer/Inspec	or	*	
•	Street or Route	Telephone Number						
	P.O. Box 277	(414) 238-1998		Follo	и-ир Месев	sary		
	City, State, Zip Code							
	Mequon, WI 53092-0277							

Mequon, WI 53092-0277

### WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B

Rev. 8-89

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 Washington SERIGRAPH Present Well Owner SE 1/4 of S 1/4 of Sec. 13 : T 12 ; R. 19E ∏W Serigraph ~ 95036.02 (If applicable) Street or Route 760 Indiana Avenue, West Bend, WI 53095 Gov't Lot Grid Number City, State, Zip Code **Grid Location** West Bend, WI 53095 ft. ∏N. ∏S. Facility Well No. and/or Name (If Applicable) WI Unique Well No. Civil Town Name MW-2 Street Address of Well Reason For Abandonment SITE CLOSED/REMED. COMPleted 760 Indiana Avenue, West Bend, WI 53095 **Date of Abandonment** City, Village 5-17-99 West Bend, WI 53095 WELL/DRILLHOLE/BOREHOLE INFORMATION (3) Original Well/Drillhole/Borehole Construction Completed On (4) Depth to Water (Feet) 9-6-91 (Date) Pump & Piping Removed? Not Applicable Yes lΝο Liner(s) Removed? Yes No Not Applicable ΧNο X Monitoring Well Construction Report Available? Screen Removed? Yes Not Applicable Water Well Yes No Casing Left in Place? Yes Drillhole WDNR 4400-122 If No, Explain Borehole Was Casing Cut Off Below Surface? No Yes Construction Type: Did Sealing Material Rise to Surface? Yes No Dug Drilled Driven (Sandpoint) Did Material Settle After 24 Hours? Νo Yes Other (Specify) If Yes, Was Hole Retopped? No Yes (5) Required Method of Placing Sealing Material Conductor Pipe-Gravity Conductor Pipe-Pumped Formation Type: =Unconsolidated Formation Bedrock Dump Bailer Other (Explain) Gravity (6) Sealing Materials Total Well Depth (ft.) For monitoring wells and (From groundsurface) **Neat Cement Grout** monitoring well boreholes only Sand-Cement (Concrete) Grout Casing Depth (ft.) N/A Concrete Bentonite Pellets Clay-Sand Slurry Granular Bentonite Bentonite-Sand Slurry Was Well Annular Space Grouted? Unknown **Bentonite-Cement Grout** If Yes, To What Depth? Chipped Bentonite Feet No.Yards, From (Ft.) To (Ft.) Sacks, Sealant Mix Ratio or Mud Weight (7) Sealing Material Used or Volume **Bentonite** Surface 95036.02 (8) Comments: Advent Project # FOR DNR OR COUNTY USE ONLY (9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc. Date Received/Inspected District/County Signature of Person Doing Work Date Signed <-17-99 Peter E. Pavalko Reviewer/Inspector Street or Route Telephone Number P.O. Box 277 (414) 238-1998 Follow-up Necessary City, State, Zip Code

WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-58 Rev. 8-89 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

Admin. Code, whichever is ap	plicable. Also, see instructions on b						
(1) GENERAL INFORMATION			LITY NAM				
Well/Drillhole/Borehole	County	Original Well Owner (If Known)					
Location	Washington		FRIGRA	<del>-//</del>			
	∏E		Present Well Ownér				
<u>SE</u> 1/4 of <u>S</u> 1/4 of Sec.	. <u>13</u> : T <u>12</u> ; R. <u>19E</u> W	Serigraph - 95036.02					
(If applicable) Gov't Lot	Grid Number		or Route	onuo Most B	end, WI 53095		
Grid Location	Glid (Vallibe)	<del></del>			end, 441 33093		
		1	tate, Zip Co				
ft. N. S.		Bend, WI		Applicable) NAU Unique Maral No.			
Civil Town Name		Facility		nd/or Name (If A	Applicable) WI Unique Well No.		
Chroat Address of Mol				W-3			
Street Address of Well 760 Indiana Avenue, Wes	t Dand W/I 52005	Reaso	n For Aband	conment	PEARLY Completed		
City, Village	t Belld, VVI 33093	Date	Abandonm	ent CCOLED A	EINED. COMPILER		
West Bend, WI 53095		Dance	i Abandonii	·-	PEMED. Completed 17-99		
WELL/DRILLHOLE/BOREHO	LE INFORMATION	· · · · · · · · · · · · · · · · · · ·					
(3) Original Well/Drillhole/Borehole		(4) Depth	to Water (F	eet) ~/0			
0	-6-91	Γ΄.	& Piping Re		Yes No X Not Applicable		
(Date)	0 11						
[7]	lossaturation Depart Assistation		) Removed?				
Monitoring Well	Construction Report Available?		Removed?		Yes No Not Applicable		
Water Well	Yes No	_	Left in Plac	æ'/	▼Yes No		
Drillhole	WDNR 4400-122	If No, E	explain				
Borehole							
		1	•	off Below Surface			
Construction Type:	_	i	•	al Rise to Surfac			
Drilled Driven	(Sandpoint) Dug	Did Ma	terial Settle	After 24 Hours?	Yes No		
Other (Specify)		lf Ye	es, Was Ho	le Retopped?	YesNo		
				(5) Required Method of Placing Sealing Material			
Formation Type:	Formation Type:		Conductor Pipe-Gravity Conductor Pipe-Pumped				
Unconsolidated Formation	Bedrock	Dump Bailer Other (Explain) Gravity					
Total Well Depth (ft.) /3.5	Casing Diameter (ins.)	(6) Sealing			For monitoring wells and		
(From groundsurface)		<u> </u>	Cement Gr		monitoring well boreholes only		
		==	-	Concrete) Grout	· —		
Casing Depth (ft.) N/A		Cond			Bentonite Pellets		
		I 🗯 '	-Sand Slurry	•	Granular Bentonite		
Was Well Annular Space Grou		. —	onite-Sand	•	Bentonite-Cement Grout		
If Yes, To What Depth?	Feet	Chip	ped Benton	ite			
		Ī		No.Yards,			
(7) Seali	ing Material Used	From (Ft.)	To (Ft.)	Sacks, Sealant or Volume	Mix Ratio or Mud Welght		
		<del> </del>		or volume			
Bentonite		Surface	15.5	/			
			13.3				
			ł				
		ļ					
		<u> </u>					
(8) Comments: Advent Project	ct # 95036.02						
		(10)					
	Name of Person or Firm Doing Sealing Work			•••••	DNR OR COUNTY USE ONLY		
	Advent Environmental Services, Inc.			ispected	District/County		
Signature of Person Doing Wor	Signature of Person Doing Work Date Signed						
Peter E. Pavalko	Peter E. Pavalko 5-17-99			ter			
Street or Route	Telephone Number						
P.O. Box 277	(414) 238-1998	Follo	и-up Neces	sary			
City, State, Zip Code							
Mequon, WI 53092-0277	Mequon, WI 53092-0277						

## WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 8-89

(1) GENERAL INFORMATION		performed in accordance with the picable. Also, see instructions on b		of Chapter	s NR 111, NR	112 or NR 141,	Wis.		
WestDimbote/Borehole   County   Washington   SERICRAPY   SERIOR AND			T(2) FACILITY NAME						
SE 1/4 of S 1/4 of Sec.   13 : T 12 : R. 19E   W   Serigraph > 50503.0.2   Street Route   Serigraph > 50503.0.2   Street Route   Serigraph > 50503.0.2   Street Route   Street Address of West Bend, WI 53095   Cty, Village   Construction Type:   West Developed   Construction Type:   West Developed   Village									
SE   14 of Sec.   13 : T   12 ; R. 19E   W   Serigraph - \$5038.02	Location		51	FRIGRA	444				
Grid Location  Orid Location  Orid Location  Original Received Inspector  Original Well Construction Report Available?  Water Bend, WI 53095  Facily Well No. and/or Name (if Applicable)  Water Bend, WI 53095  Facily Well No. and/or Name (if Applicable)  Water Bend, WI 53095  West Bend, WI 53095  West Bend, WI 53095  Street Address of Well  780 Indiana Avenue, West Bend, WI 53095  Street Address of Well  780 Indiana Avenue, West Bend, WI 53095  Water Well  780 Indiana Avenue, West Bend, WI 53095  Facily Well No. and/or Name (if Applicable)  Water West Bend, WI 53095  West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  Street Address of Well  780 Indiana Avenue, West Bend, WI 53095  Water Well No. and/or Name (if Applicable)  Street Address of Well  780 Indiana Avenue, West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  West Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  Water Bend, WI 53095  With Indiana Avenue, West Bend, WI 53095  Water Indiana Avenue, West Bend Indiana Avenue, With Indian	SE 1/4 of S 1/4 of Sec.								
Construction Type:   Casing Diameter (ira.)   Casing Depth (it.)   N/A		Grid Number			enue, West B	end. WI 53095			
West Bend, WI S3095   Street Address of Well   Toom Name   Facility Well No. and/or Name (If Applicable)   Wil Unique Well No.   MW-Y   West Bend, WI S3095   TTE CLOSED   REMED. Completed   Tool Indiana Avenue, West Bend, WI S3095   Date of Abandoment   STITE CLOSED   REMED. Completed   Tool Indiana Avenue, West Bend, WI S3095   Date of Abandoment   STITE CLOSED   REMED. Completed   TTE CLOSED   TTE CLOSED   REMED. Completed   TTE CLOSED							", ',		
Street Address of Well 760 Indiana Avenue, West Bend, WI 53095  Clty, Village West Bend, WI 53095  West Bend, WI 54096  West Bendered  West West (Peet)  West West (P			•						
Street Address of Well   760 Indiana Avenue, West Bend, WI 53095   STEE CLOSED/REMED. Complexed   City, Village   West Bend, WI 53095   Date of Abandonment   S-1-7-99	Civil Town Name		Facility			pplicable)	WI Unique Well No.		
WELLIDRILLHOLE/BORDEHOLE INFORMATION			Reaso	n For Abano	donment	2> -	1.1.1		
WELLIDRILLHOLE/BORDEHOLE INFORMATION		Bend, WI 53095	Data a	SITE	CLOSEP/K	EMED. CO.	mpleted		
WELLIDRILLHOLE/BORDEHOLE INFORMATION			Date o	i Abandonii	ient	17-99	•		
(3) Original Well/Unlihole/Borehole Construction Completed On (Date)    Gate   9 - 6 - 9 - 7		E INFORMATION							
Coate   9-6-7			(4) Depth	to Water (F	eet) $\sim$ /0				
Monitoring Well   Water Well   Dritthole   WDNR 4400-122   Work   No   WDNR 4400-122   Water Well   Dritthole   Borehole   WDNR 4400-122   Was Casing Cut In Place? If No, Explain   Was Casing Cut Off Below Surface? Did Sealing Material Rise to Surface? Did Sealing Rise to R	0						Not Applicable		
Water Well	(Date) 7	<i>y</i> (/	1				Not Applicable		
Water Well	Manitoring Moll	Construction Report Applicable 2		•					
Drillhole   Borehole	<b>;=</b>	1 — <u>—</u>	1				Not Applicable		
Borehole   Construction Type:   Dirilled   Driven (Sandpoint)   Dug   Did Sealing Material Rise to Surface?   Did Sealing Material Settle After 24 Hours?   Yes   No   Did Sealing Material Settle After 24 Hours?   Yes   No   Did Material Settle After 24 Hours?   Yes   No   Date Conductor Pipe-Pumped Other (Explain) Gravity   Dump Baller   Dump Balle			1		er .	Kites Livo			
Was Casing Cut Off Below Surface?   Yes   No   No   Did Material Rise to Surface?   Yes   No   No   Dum Paterial Rise to Surface?   Yes   No   Dum Paterial Rise to		WDNR 4400-122	1 1110,	zxpiairi					
Construction Type:   Drilled	Прогенов		W/25 C	acing Cut C	off Balow Surface	02	Na Ma		
Dit	Construction Type:								
Other (Specify)									
Formation Type: Unconsolidated Formation    Bedrock		Li Dug							
Formation Type: Unconsolidated Formation  Total Well Deptin (ii.)  Casing Depth (it.)  Casing Depth (it.)  Was Well Annular Space Grouted?  Was Well Annular Space Grouted?  Was Well Annular Space Grouted?  Was Well Annular Depth?  Feet  To What Depth?  From (Ft.)  Sealing Material Used  From (Ft.)  From (		Formation Type: Unconsolidated Formation Bedrock							
Unconsolidated Formation Bedrock Total viveli Deptin (ii.)					1'' <b>_</b> '				
Total Well Deptin (ii.)	• •				Dump Bailer Other (Explain) Gravity				
(From groundsurface)  Casing Depth (ft.) N/A  Was Well Annular Space Grouted? Yes No Unknown If Yes, To What Depth?  Sealing Material Used  Bentonite-Sand Slurry  Chipped Bentonite  Bentonite-Sand Slurry  Chipped Bentonite  Surface  From (Ft.) To (Ft.) Sacks, Sealant or Volume  Bentonite  Surface  Surface  Surface  Surface  (16) FOR DNR OR COUNTY USE DNLY  Advent Environmental Services, Inc.  Signature of Person Doing Work Peter E. Pavalko  Street or Route  Telephone Number  Neat Cement Grout  Mondard Concrete  Clay-Sand Slurry  Bentonite Pellets  Granular Bentonite  Bentonite  Surface  Clay-Sand Slurry  Bentonite-Sand Slurry  Bentonit	Unconsolidated Formation								
(From groundsurface)  Casing Depth (ft.) N/A  Was Well Annular Space Grouted? Yes No Unknown If Yes, To What Depth?  Was Well Annular Space Grouted? Yes No Unknown If Yes, To What Depth?  From (Ft.) To (Ft.) Sacks, Sealant or Volume  Bentonite  Surface  Surface  Surface  Mix Ratio or Mud Weight or Volume  Surface  Surface  Surface  FOR DNR OR COUNTY USE ONLY  Advent Environmental Services, Inc.  Signature of Person Doing Work Peter E. Pavalko  Street or Route  Telephone Number	Total VVeil Depth (it.)								
Casing Depth (ft.) N/A  Was Well Annular Space Grouted? Yes No Unknown If Yes, To What Depth?  (7) Sealing Material Used  Bentonite-Sand Slurry Chipped Bentonite  Surface  Surface  Surface  Surface  (8) Comments: Advent Project # 95036.02  (9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc. Signature of Person Doing Work Peter E. Pavalko Street or Route  Telephone Number  Concrete Clay-Sand Slurry Bentonite-Sand Slurry Chipped Bentonite  Surface  I To (Ft.) No.Yards, Sacks, Sealand or Volume Mix Ratio or Mud Weight Or Volume  Mix Ratio or Mud Weight Or Volume  Mix Ratio or Mud Weight Or Volume  Mix Ratio or Mud Weight Or Volume  District/County  Date Received/inspector  Reviewer/Inspector									
Was Well Annular Space Grouted?   Yes   No									
Was Well Annular Space Grouted?	Casing Depth (ft.) N/A	(ft.) <u>N/A</u>			<b> </b>				
If Yes, To What Depth?  Feet Chipped Bentonite  From (Ft.) To (Ft.) Sacks, Sealant or Volume  Bentonite  Surface /5.5 /   (8) Comments: Advent Project # 95036.02  (9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc.  Signature of Person Doing Work Peter E. Pavalko  Street or Route  Surface /5.5 /   (10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected  Date Received/Inspector			Clay-Sand Slurry Granular Bentonite						
If Yes, To What Depth?  Feet Chipped Bentonite  From (Ft.) To (Ft.) Sacks, Sealant or Volume  Bentonite  Surface /5.5 /   (8) Comments: Advent Project # 95036.02  (9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc.  Signature of Person Doing Work Peter E. Pavalko  Street or Route  Surface /5.5 /   (10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected  Date Received/Inspector	Was Well Annular Space Groute	d? Yes No Unknown							
Sealing Material Used   From (Ft.)   To (Ft.)   Sacks, Sealant or Volume   Mix Ratio or Mud Weight	If Yes, To What Depth?	Feet	Chip	ped Benton	ite	· <del>_</del>			
Bentonite  Surface  S	100000000000000000000000000000000000000								
(8) Comments: Advent Project # 95036.02  (9) Name of Person or Firm Doing Sealing Work    Advent Environmental Services, Inc.    Signature of Person Doing Work    Peter E. Pavalko    Street or Route  (10) FOR DNR OR COUNTY USE ONLY  Date Signed    County   Date Signed   Date Signed	(7) Sealing	n Material Used	From (Ft.)	To (Ft.)		Mix Rati	o or Mud Weight		
(8) Comments: Advent Project # 95036.02  (9) Name of Person or Firm Doing Sealing Work    Advent Environmental Services, Inc.    Signature of Person Doing Work    Peter E. Pavalko    Street or Route  (10) FOR DNR OR COUNTY USE ONLY  Date Signed    County   Date Signed   Date Signed	Bentonite		Surface	11-	,				
(9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc. Signature of Person Doing Work Peter E. Pavalko Street or Route  [10] FOR DNR OR COUNTY USE ONLY Date Received/Inspected  [20] Reviewer/Inspector				13.3			***************************************		
(9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc. Signature of Person Doing Work Peter E. Pavalko Street or Route  [10] FOR DNR OR COUNTY USE ONLY Date Received/Inspected  [20] Reviewer/Inspector									
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(9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc. Signature of Person Doing Work Peter E. Pavalko Street or Route  [10] FOR DNR OR COUNTY USE ONLY Date Received/Inspected  [20] Reviewer/Inspector							1,241,411		
(9) Name of Person or Firm Doing Sealing Work Advent Environmental Services, Inc. Signature of Person Doing Work Peter E. Pavalko Street or Route  [10] FOR DNR OR COUNTY USE ONLY Date Received/Inspected  [20] Reviewer/Inspector				l					
Advent Environmental Services, Inc.  Signature of Person Doing Work Peter E. Pavalko  Street or Route  Date Signed Feed Signed Feed Signed Feed Telephone Number  Date Received/Inspected  Date Received/Inspected  District/County  Reviewer/Inspector	(8) Comments: Advent Project	# 95036.02					-		
Advent Environmental Services, Inc.  Signature of Person Doing Work Peter E. Pavalko  Street or Route  Date Signed Feed Feed Feed Feed Feed Feed Feed Fe	(9) Name of Person or Firm Doing So	ealing Work	tim		EUB (	ONR OR COUNTY	USE ONLY		
Signature of Person Doing Work Peter E. Pavalko  Street or Route  Date Signed Reviewer/Inspector  Reviewer/Inspector									
Peter E. Pavalko  Street or Route  Telephone Number  Reviewer/Inspector						LABO	ou agenty		
Street or Route Telephone Number	•	C-17-99	Dave.	war/inener	for:				
	***************************************		<b>,</b>		-				
P.O. Box 277 (414) 238-1998 Follow-up Necessary	P.O. Box 277	(414) 238-1998	Follow	v-(in Neces	sarv				
City, State, Zip Code		1 (414) 200-1000		MP TIECES					
Mequon, WI 53092-0277	- · · · · · ·								

## WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5B Rev. 8-89

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. (2) FACILITY NAME (1) GENERAL INFORMATION Original Well Owner (If Known) County Well/Drillhole/Borehole SERIGRAPH Washington Location Present Well Owner Serigraph - 95036.02 13 : T 12 ; R. 19E ∏W SE 1/4 of S 1/4 of Sec. Street or Route (If applicable) 760 Indiana Avenue, West Bend, WI 53095 **Grid Number** Gov't Lot City, State, Zip Code **Grid Location** West Bend, WI 53095 Facility Well No. and/or Name (If Applicable) Civil Town Name GW Collection Sump Street Address of Well Reason For Abandonment SITE CLOSED/REMED. Completed 760 Indiana Avenue, West Bend, WI 53095 Date of Abandonment City, Village 5-17-99 West Bend, WI 53095 WELL/DRILLHOLE/BOREHOLE INFORMATION (4) Depth to Water (Feet) (3) Original Well/Drillhole/Borehole Construction Completed On Yes Not Applicable Pump & Piping Removed? (Date) Liner(s) Removed? Yes No Not Applicable X No Construction Report Available? Screen Removed? Yes Not Applicable Monitoring Well Casing Left in Place? No Water Well Yes No Yes WDNR 4400-122 If No, Explain Drillhole **Borehole** Was Casing Cut Off Below Surface? No Yes Yes No Did Sealing Material Rise to Surface? Construction Type: Νo Dug Did Material Settle After 24 Hours? Drilled Driven (Sandpoint) Yes If Yes, Was Hole Retopped? Yes No Other (Specify) (5) Required Method of Placing Sealing Material Conductor Pipe-Gravity Conductor Pipe-Pumped Formation Type: Dump Bailer Other (Explain) Gravity **=**Unconsolidated Formation Bedrock (6) Sealing Materials Total Weil Depth (ft.) For monitoring wells and Neat Cement Grout monitoring well boreholes only (From groundsurface) Sand-Cement (Concrete) Grout Concrete Bentonite Pellets Casing Depth (ft.) N/A Clay-Sand Slurry Granular Bentonite **Bentonite-Cement Grout** Yes 🗷 No Unknown Bentonite-Sand Slurry Was Well Annular Space Grouted? If Yes, To What Depth? Feet **Chipped Bentonite** No.Yards, From (Ft.) To (Ft.) Sacks, Sealant Mix Ratio or Mud Weight Sealing Material Used (7) or Volume **Bentonite** Surface 10 (8) Comments: Advent Project # 95036.02 FOR DNR OR COUNTY USE ONLY (9) Name of Person or Firm Doing Sealing Work District/County Advent Environmental Services, Inc. Date Received/Inspected Date Signed Signature of Person Doing Work C-17-99 Reviewer/Inspector Peter E. Pavalko Street or Route Telephone Number (414) 238-1998 Follow-up Necessary P.O. Box 277 City, State, Zip Code Mequon, WI 53092-0277



ENVIRONMENTAL & REGULATORY SERVICES 101 West Pleasant Street Suite 205 Milwaukee, Wisconsin 53212 www.commerce.state.wi.us Fax: (414) 220 5374

Tommy G. Thompson, Governor Brenda J. Blanchard, Secretary

April 5, 1999

J. Thomas Ravn Serigraph, Inc. 3801 E. Decorah Rd. West Bend, WI 53095

> COMMERCE # 53095-4050-60 RE:

> > Serigraph, Inc., 760 Indiana Ave., West Bend, WI 53095

Petroleum impacts associated with former ASTs on northwest portion of property

Case Closure (conditional upon receipt of documentation)

Dear Mr. Ravn:

On behalf of the Wisconsin Department of Commerce, I have reviewed this case for closure. Based on the information available, the Department considers that no further investigation or remedial action is necessary. In making this determination, I reviewed the letter Re: Serigraph, Inc., dated March 16, 1999, prepared by Advent Environmental. I also reviewed other documents in the case file including reports prepared by Advent, and correspondence between the WDNR and Serigraph.

If, in the future, site conditions indicate that any contamination that might remain poses a threat, the need for further remediation would be determined and required if necessary. If subsequent information indicates a need to reopen this case, any original claim under the PECFA fund would also reopen and you may apply for assistance to the extent of remaining eligibility.

Soil containing petroleum compounds remains on-site near the northwest corner of the existing Serigraph building. In the event that any petroleum-impacted subsurface soil is encountered in the future, it would have to be managed according to all applicable State of Wisconsin regulations and standards.

**IMPORTANT**: we cannot list this case as "closed" on our computer database until we receive documentation of monitoring well and sump abandonment (per Ch NR 141.25 Wis. Adm. Code). The Department requests that, within 30 days, you properly abandon the four monitoring wells and one sump, and submit the abandonment documentation to me at the letterhead address.

Thank you for your efforts in the protection of the environment. If you have any questions, you can reach me at (414) 220-5372.

Sincerely,

Nancy S. Kochis Hydrogeologist PECFA Site Review Section

Pete Pavalko, Advent Environmental cc:

electronic case file



#### State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary Gloria L. McCutcheon, Regional Director Southeast Region Headquarters 2300 N. Dr. Martin Luther King, Jr. Drive PO Box 12436 Milwaukee, Wisconsin 53212-0436 Telephone 414-263-8500 FAX 414-263-8606 TDD 414-263-8713

March 26, 1999

RECEIVED

MAR 29 1999

CONTACT

PECFA SITE REVIEW MILWAUKEE OFFICE

BRRTS#:03-67-001408 Facility ID#: 267083850 LUST

Peter E. Pavalko Advent Environmental Services 10845 N. Buntrock Ave., 64W Mequon, WI 53095

SUBJECT: File Transfer to the Department of Commerce

Dear Mr. Pavalko:

On 3/17/99, The Wisconsin Department of Natural Resources (WDNR) received your request to transfer case 03-67-001408 to the Department of Commerce.

The file is being routed to Commerce, effective March 26th. Please refer questions about this site to Commerce at the following address. Phone numbers are also listed.

	CONTACT	
Wisconsin Department of Commerce	Nancy Kochis	414-220-5372
101 W. Pleasant St.	Jennifer Skinner	414-220-5373
Suite 205	Greg Michaels	414-220-5375
Milwaukee WI 53212	Linda Michalets	414-220-5376

To speed processing at Commerce, please refer to the BRRTS number listed in this letter.

Sincerely,

Program Specialist

Remediation and Redevelopment

414-263-8688



March 16, 1999

MAR 1 7 1999 ERS DIVISION

Ms. Nancy Kochis Wisconsin Department of Commerce 101 W. Pleasant Street Suite 205 Milwaukee, WI 53212-3939

Re:

Serigraph, Inc., 760 Indiana Avenue, West Bend, WI 53095 50 FID #: 267083850; BRRTS #: 03-67-001408. WDCOM #: 53095-4036-60. Advent Project #: 95036.02.

Dear Nancy:

We are requesting that the WDNR transfer this case file to the WDCOM – Milwaukee Office. We did not detect any groundwater contaminants from the Serigraph, Inc., site above the NR 140 PAL between September 1991 and September 1993.

We are requesting that the WDCOM review this site and close it. Below is a summary of the remediation activities that have been completed.

- February 1991, Aqua-Tech, Inc., completed a nine boring site investigation to
  determine the extent of soil contamination originating from several former bulk ASTs.
  We estimated approximately 2,850 cubic tons of contaminated soil was present at the
  site. The soil extended from the surface to approximately 11 feet, where we
  encountered groundwater. Groundwater flow is to the northeast.
- Summer of 1991, we supervised the excavation and on-site thermal treatment of approximately 3,267 tons of contaminated soil. We removed all of the contaminated soil except for soil adjacent to the northwest corner of the building's foundation. A soil sample collected against the foundation contained DROs at 6.400 ppm.
- September 1991, we installed four groundwater monitoring wells around the perimeter of the excavation to determine the impact of the release on groundwater.
   Well locations are shown on Figure 1.
- December 1991, we installed two 4-inch diameter passive air vents near the
  northwest corner of the building. The purpose of the vents was to provide a conduit
  for air infiltration to the subsurface soils in order to enhance microbial biodegradation
  of the remaining petroleum contaminants.
- Between September 1991 and September 1993, we completed five groundwater samplings of the four monitoring wells. No significant groundwater contamination was detected at the site. Most notably, there were no contaminants detected in MW-4, which is located immediately downgradient of the remaining groundwater contamination. A summary table of the groundwater results is presented in Attachment 1. A potential upgradient source of groundwater contamination migrating onto the Serigraph, Inc., site was identified.
- On September 1994, we collected two soil samples from a geoprobe boring we
  completed between the two passive air vents. The purpose of the sampling was to
  determine if petroleum constituent concentrations had decreased since 1991. The
  results of the soil sampling are presented in Attachment 2. The locations of the boring
  and air vents are shown on Figure 2.

#### Advent Environmental Services, Inc.

Page Two Serigraph, Inc.

The results of the site investigation and remediation indicate that the vast majority of contaminated soil has been removed and groundwater has not been significantly impacted. No environmental factors exist at this site and to the extent possible, this release has been investigated and remediated.

The only remaining area of soil contamination is the small volume of contaminated soil near the northwest corner of the building. Based on the soil plume margin we documented during the remedial excavation, we estimate that there are approximately 40 cubic yards of DRO contaminated soil remaining against the west and north foundation walls at the northwest corner of the building. The volume of contaminated soil below the building foundation is minimal, because the building extends approximately eight feet below ground surface. The estimated area of remaining contaminated soil is shown of Figure 3.

#### Advent recommends that the WDCOM close this site for the following reasons:

- We removed all of the accessible contaminated soil associated with this release;
- No environmental factors, as defined in COMM 47.337(3), exist at the site;
- Two years of groundwater monitoring demonstrated that this release has not resulted in any significant groundwater contamination;
- The volume of remaining soil contamination is very minimal, estimated at approximately 40 cubic yards;
- No potable wells are located near this site; the area is served by the City of West Bend public water supply;
- The site no longer posses a threat to human health or the environment; and
- The site has been remediated to the extent practical and economically feasible; little benefit will be realized by continued investigation or monitoring.

After the site is closed, we will abandon the two passive air vents and groundwater sump. Please let us know if we should also abandon the four monitoring wells, or if they should be left in-place for future monitoring by others.

If you have any questions or want to discuss this request for closure, please contact me at 238-1874, ext. 3016.

Sincerely,

Pete Pavalko, CHMM, REM

Environmental Scientist - Mequon Office

Cc: BRR Program, WDNR, P O Box 12436, Milwaukee, WI 53212 Tom Ravn, 3801 E. Decorah Road, West Bend, WI 53095

95036closure 1

## Attachment 1

Summary of Groundwater Sampling Results

#### SUMMARY OF GROUNDWATER SAMPLE RESULTS AT THE SERIGRAPH, INC. SITE - PLANT NO. 1 WEST BEND, WISCONSIN

		Sample Date					
Monitoring Well	September 1991	March 1992	September 1992	February 1993	September 1993		
MW-1	ND¹	ND	DRO - 100 μg/l	ND	DRO - 720 μg/l		
MW-2 ·	ND	1,2,4-TMB - 1.9 μg/l 1,3,5-TMB - 1.0 μg/l o-xylene - 9.46 μg/l	ND	ND	DRO - 140 μg/l		
MW-3	ND	ND	ND	ND	DRO - 710 μg/l		
MW-4	ND	ND	ND	ND	ND		

ND = No PVOCs or DROs detected above laboratory detection levels.

## Attachment 2

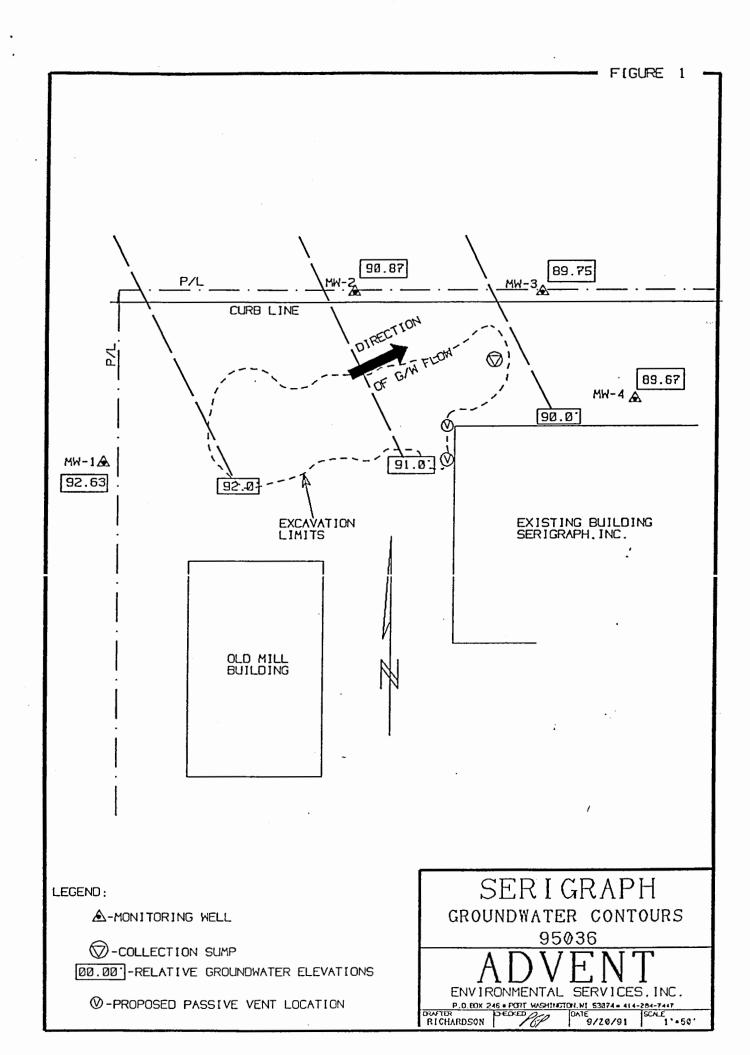
Summary of Geoprobe Soil Sampling Results, September 7, 1994

## SERIGRAPH, INC. - PLANT NO. 1 WEST BEND, WI DATE SAMPLED: SEPTEMBER 7, 1994

Sample I.D.	Boring	Depth	PID (ppm)	DRO (ppm)	PVOC (ppb)
SB-1A	B-1	5-7	25	27	benzene - 2.2 toluene - 6.3 1,2,4-trimethylbenzene - 15 xylene - 63
SB-1B	B-1	9-11	220	10,000	benzene - 92 ethylbenzene - 270 toluene - 6.0 1,2,4-trimethylbenzene - 4,800 1,3,5-trimethylbenzene - 1,600 xylene - 4,300

Figure 1

Monitoring Well Locations



# Figure 2 Geoprobe Boring and Passive Air Vent Locations

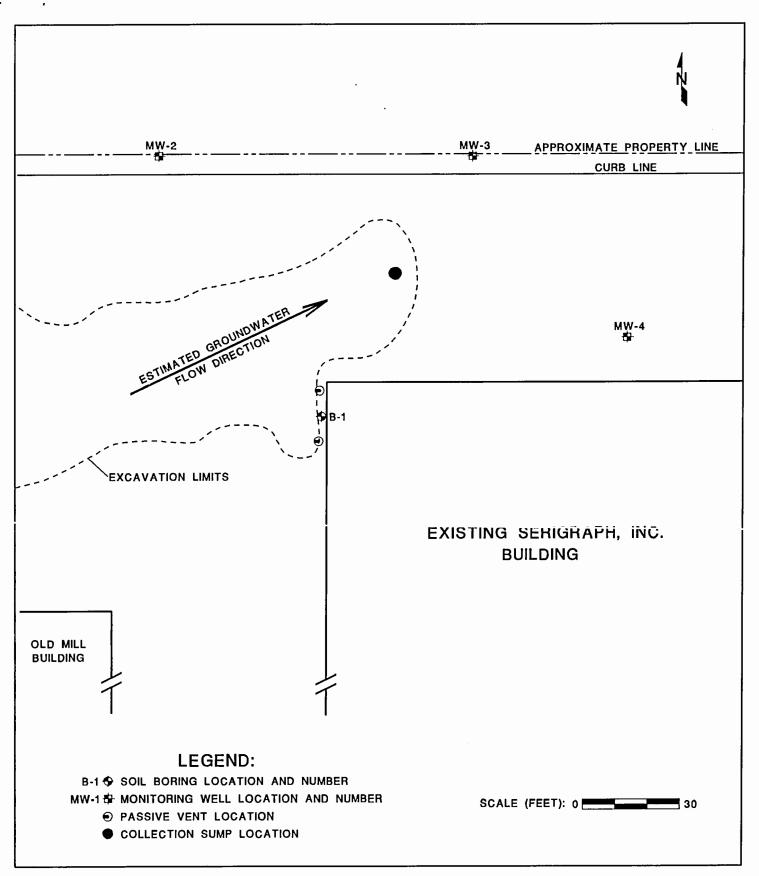


FIGURE SITE FEATURES AND SOIL BORING LOCATIONS SERIGRAPH INCORPORATED WEST BEND, WISCONSIN

ADVENT

ENVIRONMENTAL SERVICES, INC. DATE: 3/11/99
DRAWING #95036.02A

Figure 3
Estimated Extent of Remaining Contaminated Soil

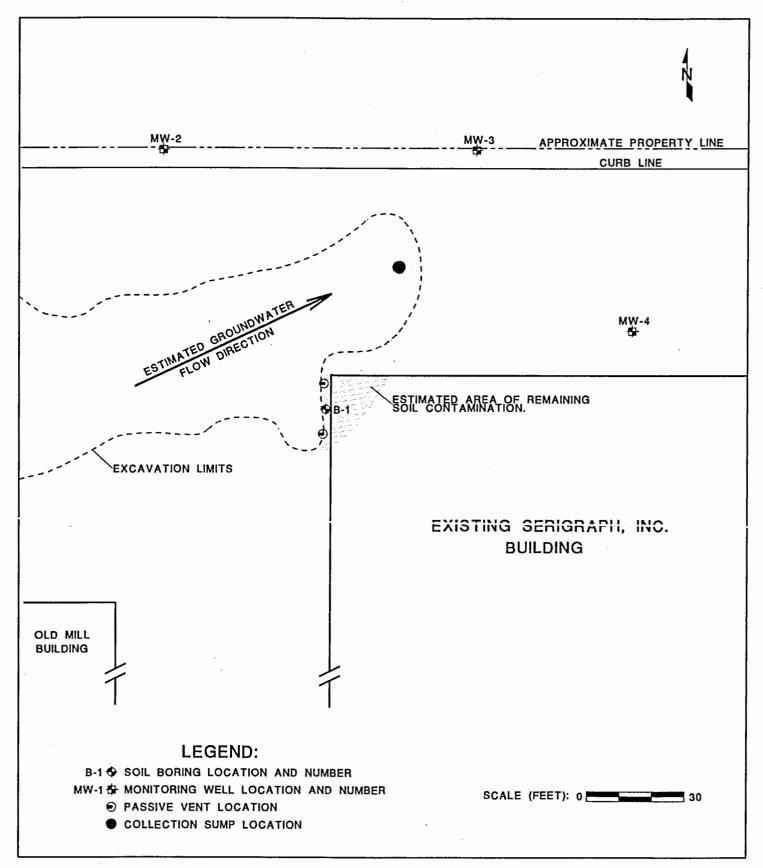


FIGURE 3 ESTIMATED EXTENT OF REMAINING SOIL CONTAMINATION SERIGRAPH INCORPORATED WEST BEND, WISCONSIN

## ADVENT

ENVIRONMENTAL SERVICES, INC. DATE: 3/11/99 DRAWING #95036.02A

## ♦ Letter Of Transmittal

Type of Sub	mittal:			
X LWST	ERP	VPLE	other	(describe):
Α				

To: Program Assistant/BRR Program
Wisconsin Dept. of Natural Resources Box 12436
2300 N. Dr. Martin Luther King Jr. Dr.
Milwaukee, WI 53212

Check type(s) of documents enclosed. Submittals are tracked & filed based on information you provide. Include FID & BRRTS numbers assigned to this site. Identify the intent of document(s) you are submitting in order to speed processing. Please attach required fees to this form.

FROM	[: Name _	Peter E. Pavalko
	Company	Advent Environmental Svc.
	Address _	10845 N. Buntrock Ave., 64W
		Mequon, WI 53095
	Phone _	414-238-1998
	Date _	3-16-99
FOR:	Site Name	SERIGRAPH, INC.
		760 INDIANA AVE.
	_	WEST BEND, WI 53095
	FID#	267083850
	BRRTS#_	03-67-001408

r	Are you requesting Department Rev	view? Y NX	rec'd 3/17/9
1	TYPE OF DOCUMENT/REPORT	FEE	DNR (office use CODE only)
	Notification of Release	none	01
	Tank Closure/Site Assessment where release(s) have been detected*	none	33
	Site Investigation Workplan	\$500 if review is requested	35, 135~
	Site Investigation Report  groundwater impacts above ES no groundwater impacts or gw impacts below ES (if petroleum contransferred to Department of Commerce)	\$750 if review is requested  nstituents only, case will be	37, 137~, 76, 96
X	Request to Transfer Case to Department of Commerce	none	76
	Off-Site Determination Request	\$500 mandatory	638~
	Remedial Action Options Plan	\$750 if review is requested	39, 143~
	NR 720.19 Site Specific Clean-Up Goal Proposal	\$750 if review is requested	67, 68~
	NR 718 Landspreading Request	\$500 mandatory	61~
	"Notification to Treat or Dispose" of Contaminated Soil/Water	none	99
	Injection/Infiltration Request	\$500 mandatory	63~
	Quarterly Report or Update	\$500 if review is requested	43, 43~
	O & M Form 4400-194	\$300 if review is requested	92, 192~
	Remedial Action Options Report	\$750 if review is requested	41, 41~
	Closure Review Request	\$750 mandatory	79~
	NR700.11 Simple Site Closure Request	\$250 mandatory	183~
	"Draft Deed Affidavit" or "Restriction required for close-out"	none	99
	"Well Abandonment Forms"	none	99
	Remedial Design Report	\$750 if review is requested	147, 148~
	Construction Documentation Reports	\$250 if review is requested	151, 152~
	Long Term Monitoring Plan	\$300 if review is requested	24, 25~
	Voluntary Party Liability Exemption (VPLE) Application	\$250 mandatory	662
	VPLE "Phase I/II Assessments" or "Additional Reports"	computed hourly	99
	Tax Cancellation Agreement	\$500 mandatory	654
	Negotiated Agreement	\$1000 mandatory	630
	Lender Assessment	\$500 mandatory	686
	Negotiation and Cost Recovery (municipalities only)	fee for each service, mandatory	90~
	General Liability Clarification Request	\$500 mandatory	684
	Lease Letter Request - Single Property	\$500 mandatory	646
	Lease Letter Request -Multiple Properties	\$1000 mandatory	646
	Request for Other Technical Assistance	\$500 mandatory	90~

\* Closure reports for sites where no releases have been detected should be sent directly to "Clean Closures" c/o DNR Remediation & Redevelopment Program, P.O. Box 7921, Madison WI 53707

Remarks: PLS. TRANFER TO NANCY KOCKIS ASAP.

Thank! PETE.

March 16, 1999

Ms. Nancy Kochis Wisconsin Department of Commerce 101 W. Pleasant Street Suite 205 Milwaukee, WI 53212-3939

Re: Serigraph, Inc., 760 Indiana Avenue, West Bend, WI 53095

FID #: 267083850; BRRTS #: 03-67-001408. WDCOM #: 53095-4036-60.

Advent Project #: 95036.02.

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#### Advent Environmental Services, Inc.

Page Two Serigraph, Inc.

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After the site is closed, we will abandon the two passive air vents and groundwater sump. Please let us know if we should also abandon the four monitoring wells, or if they should be left in-place for future monitoring by others.

If you have any questions or want to discuss this request for closure, please contact me at 238-1874, ext. 3016.

Sincerel

Pete Pavalko, CHMM, REM

Environmental Scientist - Mequon Office

Cc: BRR Program, WDNR, P.O. Box 12436, Milwaukee, WI 53212 Tom Rayn, 3801 E. Decorah Road, West Bend, WI 53095

95036closure.1



21 Feb 97

WASH 60. WST 267 083 850

State of Wisconsin
Dept. of Natural Resources
Bureau of Solid and Hazardous Waste Mgt.
Box 8094
Madison, WI 53708



Paul Hagmann
Hazardous Materials Coordinator
Serigraph, Inc.
2230 Stonebridge Circle
West Bend, WI 53095

Subj.: Updated Spill Response Policy

To Whom It May Concern,

Enclosed is an updated Spill Response policy for all of the Serigraph, Inc. facilities. Please dispose of all prior dated versions of this document to eliminate any confusion between the two versions.

If you should have any questions concerning this matter, please call me at 335-7472.

Sincerely.

Paul F. Hagmann Haz. Matls. Coord.

agman

D4/agencies/wdnr/wdnr01.doc

## CONTROL OF RELEASES OF HAZARDOUS MATERIALS FEBRUARY 14, 1997

#### DESCRIPTION OF FACILITIES AND MATERIALS

Serigraph Incorporated operates six facilities in the West Bend area. These facilities include Plant 1, located at 760 Indiana Ave., Plant 2, located at 3701 E. Decorah Rd., Plant 3, located at 603 Hi Mount Rd., Plant 4, located at 2230 Stonebridge Circle, Plant 6, located at 1020 Schoenhaar Dr., and a warehouse and fulfillment center located in a portion of the West Bend Commercial Warehouse, 3321 Hwy. D.

#### PLANT 1

#### MATERIALS USED

This 45,000 square foot facility houses corporate and manufacturing offices, prepress operations, and offset printing functions. Materials used include photographic supplies such as film, fixer and developer, ultra violet cured (UV) inks, fountain solutions, and solvents. UV inks consist of acrylated monomers and oligomers. Fountain solutions are comprised of water and isopropanol or glycol ethers. Solvents include aqueous solutions and potentially small amounts (< 25 gallons) of petroleum based combustible or flammable solvents. This facility also consists of two smaller buildings known as the Mill and the Annex. The Mill located at 110 Decorah Rd., houses maintenance, marketing samples and miscellaneous storage. The Annex located at 111 Decorah Rd., contains warchousing for plastic stock and MIS offices. These two buildings are contiguous with Plant 1 and are considered a part of that facility. See Appendix A.

#### WASTE MATERIALS

This facility is classified as a large quantity hazardous waste generator. Common wastes are listed in Appendix B.

#### PLANT 2

#### MATERIALS USED

An 89,000 square foot facility, Plant 2 includes manufacturing offices, R & D and engineering offices, material warehouse and screen printing. Materials found in the facility include plastic stock, solvent based, waterborne (WB), and UV inks, petroleum based solvents, and liquid nitrogen. In addition, there are four bulk flammable solvent tanks totaling 3,250 gallons located on the south side of the building. See Appendix A.

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#### WASTE-MATERIALS

This facility is classified as a large quantity hazardous waste generator. Common wastes are listed in Appendix B.

#### PLANT 3

#### MATERIALS USED

A 42,000 square foot facility, Plant 3 includes manufacturing offices, and screen printing. Materials found in the facility include plastic stock, solvent based, WB, and UV inks, and petroleum based solvents See Appendix A.

#### WASTE MATERIALS

This facility is classified as a large quantity hazardous waste generator. Common wastes are listed in Appendix B.

#### PLANT 4

#### MATERIALS USED

A 38,000 square foot facility, Plant 4 includes manufacturing offices, and screen printing. Materials found in the facility include plastic stock, solvent based, WB, and UV inks, and petroleum based solvents See Appendix A.

#### WASTE MATERIALS

This facility is classified as a large quantity hazardous waste generator. Common wastes are listed in Appendix B.

#### PLANT 6

#### MATERIALS USED

This 6,000 square foot facility houses post printing operations such as cutting and laminating. Materials found in the facility include plastic stock laminates and small quantities (> 25 gallons) of petroleum based solvents. See Appendix A.

#### WASTE MATERIALS

This facility is not a generator of hazardous waste.

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#### W.B. COMMERCIAL WAREHOUSE

#### MATERIALS USED

This 20,000 square foot facility occupies a portion of the West Bend Commercial Warehouse. It consists of storage of finished plastic goods, a small office, and a kit packaging area known as fulfillment. Very small quantities of petroleum based solvents may be found in the facility. The facility also has liquid petroleum tanks which are used for forklifts. See Appendix A.

#### WASTE MATERIALS

This facility is not a generator of hazardous waste.

#### **POLICY**

#### DEFINITION

A hazardous material shall be any material which poses a danger to health, the environment, or property.

A hazardous waste shall be any waste which may pose a hazard if handled improperly.

A spill shall be defined as any uncontrolled release of a material.

An incidental spill shall be any material less than one gallon in quantity, <u>is not a risk to health</u>, the environment, or property, and is not a listed extremely hazardous <u>substance</u>.

A minor spill shall be any hazardous material of more than one gallon and less than 5 gallons, is not a risk to health, the environment, or property, and is not a listed extremely hazardous substance.

A major spill shall be any material more than five gallons in quantity, or a material that poses a risk to health, the environment, or property, or a material which is listed as an extremely hazardous substance or any hazardous waste.

An extremely hazardous substance (EHS) shall be any material which is listed in SARA SECTION 302, EXTREMELY HAZARDOUS SUBSTANCES.

#### **RESPONSE**

#### STAFFING

Any facility which is classified as a large quantity generator of hazardous waste, while the facility is in operation and operating in a manner in which a spill could occur, shall have a First Responder on site at all times during the operation of the facility.

Any facility which is a large quantity generator of hazardous waste shall have a person trained in hazardous waste activities on site at all times while the facility in engaged in hazardous waste activities such as, but not limited to, transporting, filling, labeling, or shipping.

Any facility which has the potential for a minor spill or greater, while the facility is in operation and operating in a manner in which a spill could occur, shall have a First Responder on site or shall have access to a First Responder who shall be able to arrive at the facility within a reasonable period of time.

NOTE: A "reasonable period of time" is a time period which minimizes risk to persons, property, and/or the environment. While reasonable periods of time are dependent on the circumstances, time periods in excess of 30 minutes can generally be construed as being unreasonable.

#### REPORTING

GENERAL REPORTING - Any person who creates a spill or discovers a spill shall notify a supervisor. Spill reporting instructions are located in various areas of each facility. Spill response procedures can be found in the MSDS information area. Lists of spill emergency responders are located in the MSDS information area and on the facility employee bulletin board.

INCIDENTAL SPILL - Incidental spills need only be reported to a supervisor.

MINOR SPILL - A supervisor and a First Responder shall be notified for all minor spills.

MAJOR SPILL - A supervisor, a First Responder, and the Hazardous Materials Team shall be notified for all major spills.

spipolcy.doc 2/13/97

REPORTING TO AGENCIES - In the event that an assessment indicates that a spill could result in a fire or explosion, could threaten human health or the environment outside of the facility, and that evacuation of the facility or of local areas may be advisable, the Response Coordinator or his/her designee shall immediately contact the Local Emergency Planning Commission and the Department of Natural Resources.

SITUATION	AGENCY	PHONE	<b>FACILITY</b>
FIRE/POLICE	WEST BEND FIRE/POLICE DEPTS.	9-911	ALL PLANTS
ENVIRONMENTAL THREAT	LOCAL EMERGENCY PLANNING COMMISSION	335-4399	ALL PLANTS
	STATE EMERGENCY HOTLINE - DNR & SERB	1-800-943-0003	ALL PLANTS
DISCHARGE TO SEWER	WASTE WATER TREATMENT PLANT	335-3925	ALL PLANTS
HEALTH RISK OR INJURY	ST. JOSEPH'S HOSPITAL	334-5533	ALL PLANTS
SPILL TO DRAIN	WASTE WATER TREATMENT PLANT	335-3925	ALL PLANTS

#### RESPONSIBILITIES

EMERGENCY COORDINATOR - The emergency coordinator shall be responsible to assure that the following duties are accomplished.

An Emergency Coordinator is the individual who, on the scene, has the highest level of response training. The function of the Emergency Coordinator is to coordinate all spill response activities. An Emergency Coordinator shall relinquish his/her position when requested to do so when a person who possess a higher level of training arrives on the scene. An Emergency Coordinator shall relinquish his/her position to any outside emergency response governmental agency upon request.

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- 1. Perform a risk assessment with respect to the spill to include source, amount, identification of material spilled and possible hazards to human health or the environment which may result from the discharge, fire, or explosion accounting for both the direct and indirect effects of the discharge, fire, or explosion such as the effects of any toxic, irritating, or asphyxiating gasses that are generated, or the effects of any hazardous surface water runoff from water to chemical agents used to control fire and heat induced explosions.
- 2. Establish security requirements around the spill site taking all reasonable measures necessary to ensure that fires, explosions, and discharges do not occur, reoccur, or spread to other areas. These measures shall include, where applicable, the stopping of processes or operations.
- 3. Determine containment procedures so that possible hazards to human health and/or the environment are minimized.
- 4. Establish cleanup procedures.
- 5. Establish proper containerization procedure for materials generated as a result from a spill ensuring that no incompatible wastes are stored together and that no material is disposed of until the proper disposal methods have been determined by the Environmental Engineering Department.
- 6. Determine proper decontamination procedures for equipment and personnel involved in responding to the spill.
- 7. Provide for the safety of response personnel.
- 8. Authorize evacuation of the facility as deemed necessary by the coordinator.
- 9. Assure that an evacuation of the facility is properly executed.
- 10. Contact external emergency agencies as necessary.
- 11. File all necessary reports.

#### **EMERGENCY COORDINATORS ON CALL:**

	<u>Name</u>	<u>Address</u>	Phone Home/Work
1.)	Paul Hagmann	5877 Sand Dr., West Bend	334-1051/335-7474
2.)	Tom Ravn	3815 Hwy. I, Saukville	675-6690/335-7343
3.)	Dave Lang	5743 Sand Dr., West Bend	338-9746/335-7331

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#### HAZARĐOUS MATERIALS TEAM

Training requirements - 24 hours with annual updating.

Hazardous Team members are persons who assume an aggressive role in responding to material spills. HM team personnel may direct the response for any type of spill.

- 1. A HM team person will serve as emergency coordinator for all major spills.
- 2. The HM team shall be responsible for the response to all major spills.

#### FIRST RESPONDER - OPERATIONS LEVEL

Training requirements - 8 hours with annual updating.

A First Responder - Operations Level is an individual who is trained in hazardous material release response and may respond to such incidents. The primary purposes of a First Responder-Operations Level is to provide response for incidental and /or minor spills, and to act in a defensive posture toward major spills.

- 1. A First Responder/Operations level (FRO) shall be utilized in responding to all minor spills or spills of greater magnitude.
- 2. A FRO shall serve as the coordinator for minor spills.
- 3. FRO(s) shall be utilized for the containment and cleanup of all minor spills.
- 4. For major spills, a FRO shall serve as temporary emergency coordinator until a member of the Hazardous Materials (HM) Team arrives at the scene of the spill.
- 5. For major spills and other emergencies involving the HM team, FRO shall serve in a supporting role to the HM team.
- 6. In the event, that there is more than one FRO at the scene of a spill, the FROs shall select a leader from amongst them to coordinate response activities.

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#### FIRST RESPONDER - AWARENESS LEVEL

Training requirements - 2 hours with annual updating.

A First Responder - Awareness Level is an individual who is trained to initiate an emergency response sequence in the event of a hazardous substance release. The primary duties of a First Responder - Awareness Level is to secure the contaminated area, and summon assistance.

- 1. In the event that there is no FRO at the facility, a First Responder/Awareness (FRA) level shall direct response for all minor or greater spills.
- 2. The FRA shall perform a risk assessment of the spill.
- 3. The FRA shall attempt to contain the spill.
- 4. For minor spills the FRA shall secure the area to prevent entry and summon an FRO or HM team.
- 5. For major spills, the FRA shall secure the area to prevent entry and summon the HM team.
- 6. In the event that reporting to an outside agency is required, the FRA shall implement a evacuation plan and contact the appropriate agency(s).
- 7. In the event that there is more than one FRA at the scene of the spill, the FRAs shall select one as leader from amongst them to coordinate response activities.

#### **MOBILIZATION**

INTERNAL RESPONSE - Instructions for contacting First Responders and the Haz Mat team shall be placed in various areas throughout the facilities. A list of current First Responders shall be kept posted on the employee bulletin board of each facility. A full copy of the hazardous material response policy shall be kept in the facility MSDS information area. The name of a chief Emergency Coordinator and an alternate Emergency Coordinator shall be placed on the employee bulletin board of each facility. The Emergency Coordinator posting shall be updated weekly.

EXTERNAL RESPONSE - In the event that in the opinion of a First Responder or Haz Mat team member that there is insufficient internal resources to respond to a material, that person shall at their discretion have the authority to request assistance from an external resource. A First Responder shall make a reasonable effort to consult with a Haz Mat team member prior to contacting an outside resource.

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#### OUTSIDE RESOURCE Local Emergency Planning Commission 414-335-4399

EXTERNAL AGENCIES - Emergency response organizations shall receive a copy of Serigraph's Emergency Response Policy. Each organization shall receive revisions to the policy as they occur. A log of response procedures given to emergency response shall be maintained by Environmental Engineering. A list of emergency response agencies and their telephone numbers shall be kept in MSDS information area of each facility.

#### **EVACUATION**

In the event that the individual coordinating emergency response determines that either a full or partial evacuation of the facility is warranted, that person or their designee shall execute the procedure. Fire Suppression Evacuation Routes will be utilized for building evacuation. The public address system of the facility shall be used to notify employees. The evacuation announcement shall contain the following elements.

- 1. A statement that a spill has occurred.
- 2. Location of the spill.
- 3. Area(s) to be evacuated.
- 4. Request for employees to leave the facility.
- 5. Areas to be avoided during the evacuation.

The entire evacuation announcement shall repeated twice.

#### **EMERGENCY RESPONSE MATERIALS.**

Each facility which is classified as a hazardous waste generator shall maintain an inventory of emergency equipment which shall include the following.

- Class B and or Class C fire extinguishers.
   (Plants 2, 3, and 4, have Class D fire extinguishers in addition to B & C.)
- 2. Non-sparking shovels.
- 3. Brooms.
- 4. Drain plugging material.
- 5. Adsorbents.
- 6. Booms.
- 7. Personal protective equipment for two people to include half face respirator, gloves, goggles, and Tyvec suits.
- 8. PH measuring device.

Materials to be used by the Haz Mat team shall be located at Plant 2. These materials shall include the following.

- 1. Non-adsorbent suits with hood.
- 2. Drum repair kit.
- 3. Air monitoring equipment.
- 4. Decontamination shower.
- 5. Full face respirators.
- 6. Surface water containment boom.
- 7. Self Contained Breathing Apparatus (SCBA)

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#### FINAL REPORTING

All minor and major spills shall be reported to the Environmental Engineering Department. The Environmental Engineering Department shall be responsible for the filing of internal and required external reports associated with spills. A report shall be submitted to the operator of the facility within 24 hours after the occurrence of a minor or major spill. The report shall contain the following information.

- 1. Description of materials spilled.
- 2. Cause of the incident.
- 3. Summary of response to the incident.
- 4. Corrective action to prevent reoccurrence.

#### **CORRECTIVE ACTION**

The operator of the facility shall take the appropriate action necessary to minimize the potential for any spill reoccurrence.

#### **RESART OF OPERATIONS**

In the event that it is necessary to shut down operation(s) due to an incident, the highest ranking Serigraph responder at the time of the termination of the response shall be responsible for notifying the appropriate agency(s) that the facility intends to resume operations. Notification shall be by telephone or by other appropriate means. The agency(s) notified shall be the agency(s) that were notified of the incident and/or were involved in response to the incident.

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# IN CASE OF A MATERIAL SPILL

IMMEDIATELY CONTACT YOUR SUPERVISOR
AND
SPILL FIRST RESPONDER

(SEE LIST LOCATED ON COMPANY BULLETIN BOARDS)

# FOR MAJOR SPILLS CALL HAZ-MAT TEAM

1st Shift Env. Eng. Extension 7472,7343 or 7532

2nd Shift 24 Hr. Emergency 9 (414)838-8644

3rd Shift 24 Hr. Emergency 9 (414)838-8644

(24 Hr. Emergency Phone instructions: Dial number, at the sound of the BEEP, dial in the extension you wish the Haz-Mat Responder to call you at. Hang up and wait for the return call from Haz-Mat Responder.)



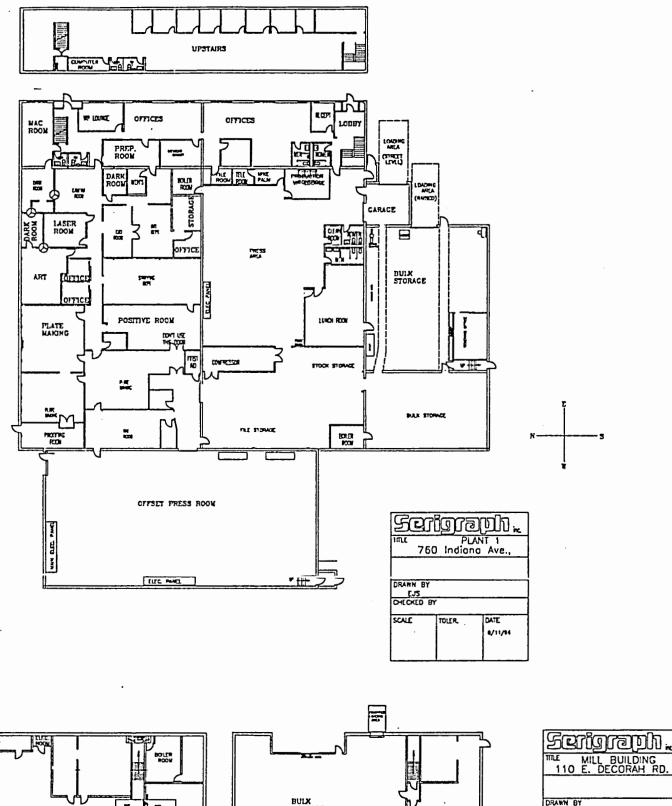
# **HAZ-MAT TEAM MEMBERS**

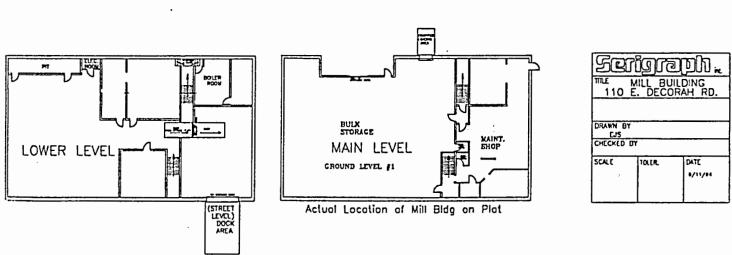
MEMBER NAME	WORK PHONE	<b>HOME PHONE</b>
Paul Hagmann	7472	334-1051
Tom Ravn	7343	675-6690
Dave Lang	7331	338-9746
Shrikant Bhat	7532	(414)354-8521
Fred Strobel	7345	338-3843
Kurt Eschenfelder	7607	334-1660
Karl Meyer	Page at Plt. 1 (Offset)	629-5249
Mike Viscuso	Page at Plt. 1 (Receiving)	334-7508
Mark Beck	Page at Plt. 2 (Web)	338-9601
Ron Reese	Page at Plt. 2 (Delco)	(414)533-4822
Norm Zettler	Page at Plt. 3 (Die Cutting)	334-7514

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# APPENDIX A FACILITY LAYOUT

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# PLANT 1 - POP

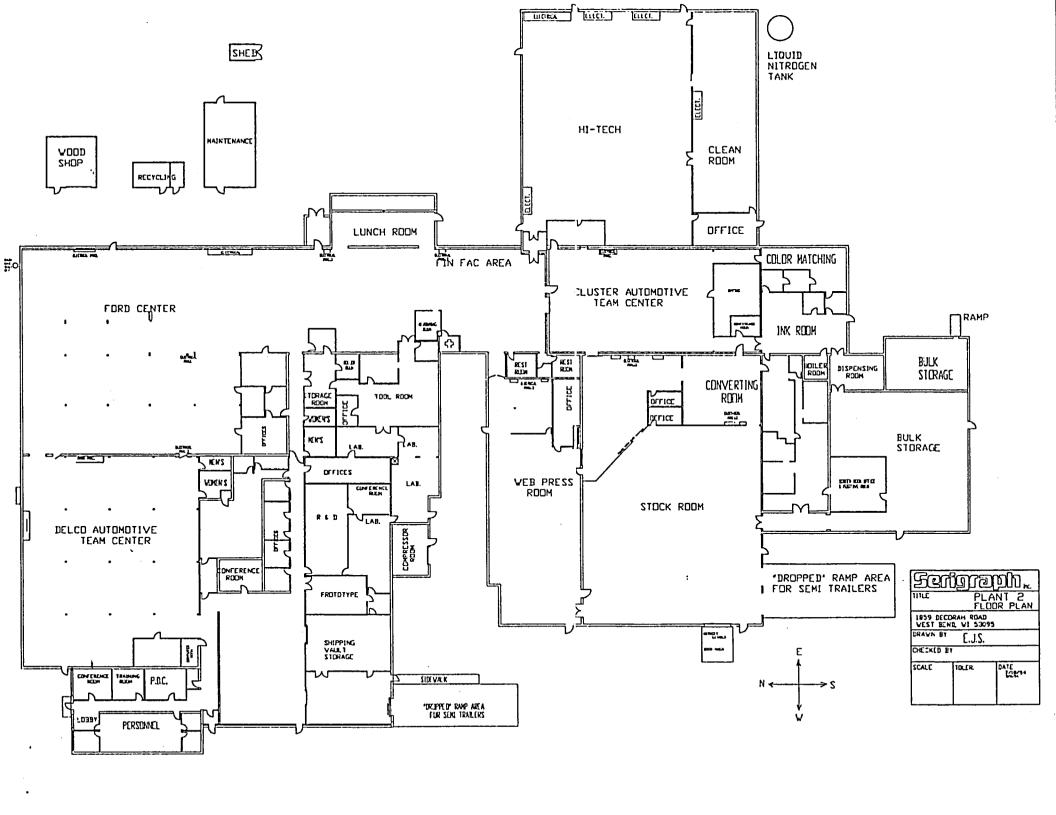
# **PLANT HAZARDS**

- 1.0) ACIDS
- **2.0) BASES**
- 3.0) GASES (COMPRESSED)
- 4.0) MAINTENANCE ITEMS PAINTS, CLEANERS, ETC.
- 5.0) OILS
- 6.0) PHOTOGRAPHIC CHEMICALS
- 7.0) UV OFFSET INKS
- 8.0) UV OFFSET SOLVENTS
- 9.0) UV SCREEN INKS

# LOCATIONS w/HAZARDS

- A. 1,2,6
- B. 1,2,6
- C. 1,2,6
- D. 1,2,6
- E. 1,2,6
- F. 1,2,6
- G. 7,8,9
- H. 4,5,7,8

- 1. 4,5,7,8
- J. 7,8
- K. 3 (possibly 6,7,8,9)
- L. 4,5,8
- M. 1
- N. 4
- O. 3
- P. 1,3,4,5



# PLANT 2 - AUTOMOTIVE

# PLANT HAZARDS

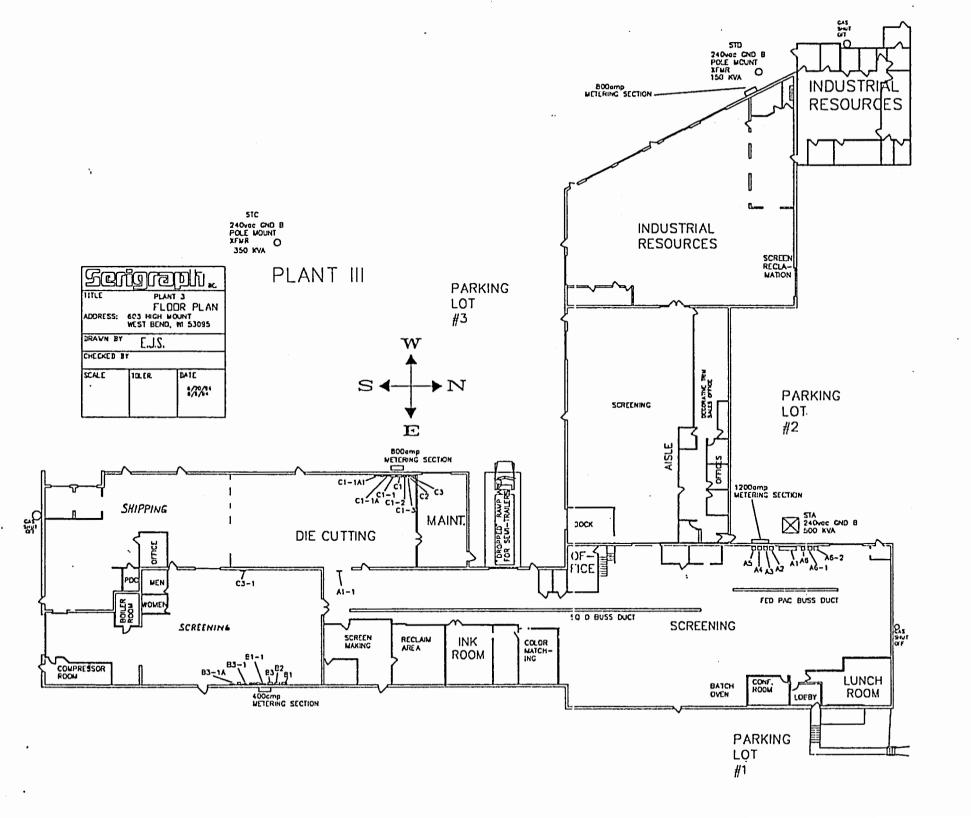
1.0) ACIDS
2.0) BASES
3.0) CATALYST MATERIALS
4.0) CONVENTIONAL SOLVENT BASE SCREEN INKS
5.0) CONVENTIONAL WATER BASE SCREEN INKS
6.0) GASES (COMPRESSED)
7.0) CRYOGENIC LIQUID (NITROGEN)
8.0) MAINTENANCE ITEMS - PAINTS, CLEANERS, ETC.
9.0) OILS
10.0) SOLVENTS
11.0) UV SCREEN INKS

# LOCATIONS w/HAZARDS

3,4,5,10,11
1,6,8,9,10
10,11
7
3,4,5,10,11
3,4,5
10
10
3,4,5,10,11

12.0) CLASS "D" MATERIALS

autohazd.doc



# **PLANT 3 - DECORATIVE TRIM**

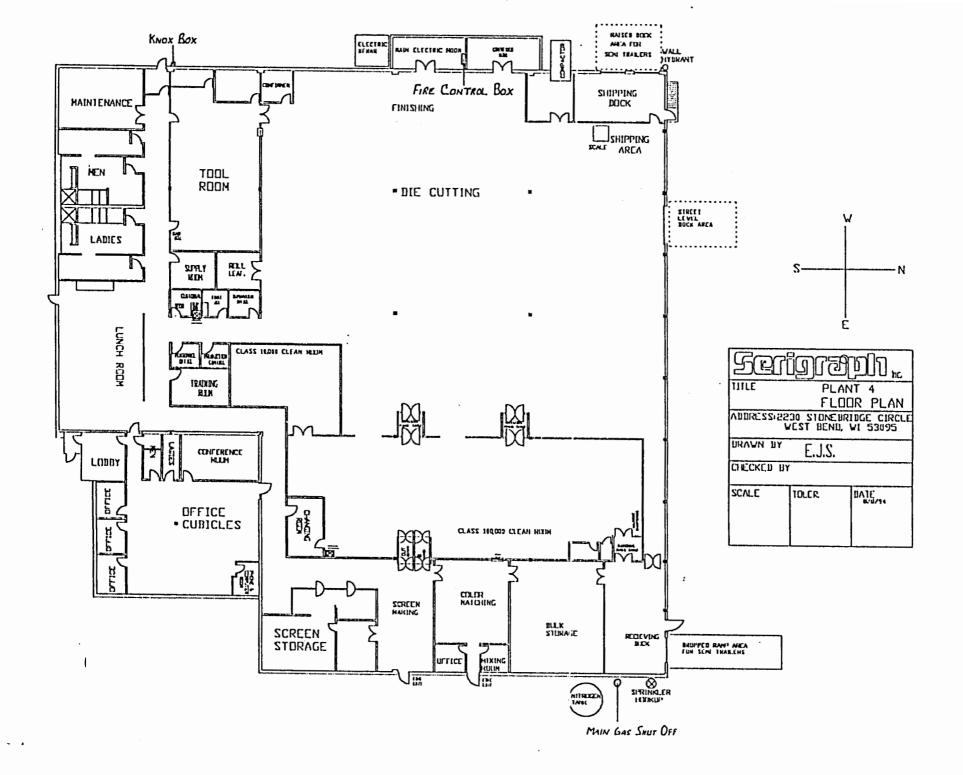
# **PLANT HAZARDS**

ACIDS
ACIDS
BASES
CATALYST MATERIALS
CONVENTIONAL SOLVENT BASE SCREEN INKS
CONVENTIONAL WATER BASE SCREEN INKS
GASES
MAINTENANCE ITEMS - PAINTS, CLEANERS, ETC.
OILS
SOLVENTS
UV SCREEN INKS
CLASS "D" MATERIALS

# **LOCATIONS W/HAZARDS**

- A. 3,4,5,9,10
- B. 3,4,5,9,10
- C. 11
- D. 3,4,5,9,10
- E. 1,2,9,
- F. 1,2,6,7,8,9
- G. 1

decohazd.doc



# PLANT 4 - ACE

# PLANT HAZARDS

- 1.0) ACIDS
  2.0) BASES
  3.0) CATALYST MATERIALS
  4.0) CONVENTIONAL SOLVENT BASE SCREEN INKS
  5.0) CONVENTIONAL WATER BASE SCREEN INKS
  6.0) GASES (COMPRESSED)
  7.0) CRYOGENIC LIQUID (NITROGEN)
  8.0) MAINTENANCE ITEMS PAINTS, CLEANERS, ETC.
  9.0) OILS
- 10.0) SOLVENTS
- 11.0) UV SCREEN INKS
- 12.0) CLASS "D" MATERIALS

# LOCATIONS w/HAZARDS

- A. 8,9,10
- B. 10
- C. 10
- D. 6,10,11
- E. 1
- F. 3,4,5,10
- G. 2,10
- H. 3,4,5,10,11
- I. 12
- J. 2,3,4,5,9,10,11
- K. 7

acehazds.doc

# APPENDIX B WASTE CLASSES

# P.O.P - PLANT 1 WASTE INSPECTION FORM

DATE:	 INSPECTED BY:	
TIME:		

# MATERIAL IDENTIFICATION KEY

# **HAZARDOUS WASTES**

R.Q. WASTE, FLAMMABLE LIQUID, N.O.S. (Isopropyl Alcohol, Toluene)
3, UN 1993, PG II (ERG #: 128)
EPA Waste Codes #: D001, D018
Offset Solvent - Auth. #: 106765-M-

R.Q. HAZARDOUS WASTE, LIQUID, N.O.S. (Zinc, Chrome)

9, NA 3082, PG III (ERG #: 171)

EPA Waste Code #: D007

Fountain Solution - BP0522

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric Acid)
8, UN 3264, PG III (ERG #: 154)
EPA Waste Code #: D002
Kodak, Polymatic Plate Finisher - Auth. #:

R.Q. WASTE, CORROSIVE LIQUID, N.O.S. (Aluminum Chloride, Acetic Acid)
8, UN 1760, PG II (ERG #: 154)
EPA Waste Code #: D011
Spent DuCare Recycled Fixer

R.Q. HAZARDOUS WASTE, LIQUID, N.O.S. (Ethylene Glycol)

9, NA 3082, PG III (ERG #: 171)

EPA Waste Code #: D018

Waste Antifreeze

CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium Hydroxide)
8, UN 3266, PG II (ERG #: 154)
EPA Waste Code #: D002
Kodak, Production Series Machine Developer - Auth. #:

### NON-HAZARDOUS/DOT REGULATED WASTES

NON-REGULATED MATERIAL Office UV Inik Hydrite Auth. #: 106788-M-

NON-REGULATED MATERIAL Waste Oil Rineco Auth. #: 9606-06219

NON-REGULATED MATERIAL Neutralized Kodak Production Series Developer AETS Auth. #: WIP231756

POTASSIUM HYDROXIDE SOLUTION 8, UN 1814, PG II (ERG#: 154) DuCare Recycled Developer NON-REGULATED MATERIAL Offset Blanket Wash Hydrite Auth. #: 112250-M-

NON-REGULATED MATERIAL

Kodak Production Series Pre-Bake Solution

Auth. #:

NON-REGULATED MATERIAL Neutralized Kodak Polymatic Plate Finisher Auth. #:

POTASSIUM HYDROXIDE SOLUTION 8, UN 1814, PG II (ERG#: 154) DuCare Recycled High Contrast Developer

# **GENERATOR INFORMATION**

Sengraph Inc. 760 Indiana Avenue West Bend, WI 53095

24 HOUR EMERGENCY PHONE NUMBER

**EPA ID NUMBER** 

(414) 838-8644 WID982623431

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_	LABELING	
PROPER LABEL CORRECT DOT NAME CORRECT HAZARD CLASS & UN/NA # CORRECT GENERATOR INFORMATION CORRECT EPA ID # & EPA WASTE # ACCUMULATION START DATE CORRECT AUTHORIZATION # NAME STENCILED ON DRUM ALL NON-WASTE INFORMATION REMOVED	YES YES YES YES YES YES YES YES	NO NO NO NO NO NO NO
	DRUM CONDITION	

### 

# COMMENTS/REMARKS

MATERIAL ITEM & FAULT	CORRECTIVE ACTION TAKEN
1	1
2	2
3	3
4	4
5	5

# AUTO - PLANT 2 WASTE INSPECTION FORM

TIME:	<del></del>	DATE:	INSPECTED BY:	
TIME:		DATE:	INSPECTED BY:	

# MATERIAL IDENTIFICATION KEY

### **HAZARDOUS WASTES**

R.Q. WASTE, PRINTING INK
3, UN 1210, PG II (ERG #: 129)
EPA Waste Codes #: F005, F003, D001, D018, D035
Conv. Screen Ink - Auth. #: 9604-05244
(Hydrite Auth. #: 8079-M)

R.Q. WASTE, FLAMMABLE LIQUID, N.O.S. (n-Propanol, Toluene)
3, UN 1993, PG II (ERG #: 128)
EPA Waste Codes #: F005, D001, D018
UV Screen Ink- Auth. #: 11751-M-

R.Q. HAZARDOUS WASTE, LIQUID, N.O.S. (Propylene Glycol)

9, NA 3082, PG III (ERG #: 171)

EPA Waste Code #: D018

Waste Antifreeze

R.Q. WASTE, FLAMMABLE LIQUID, N.O.S. (Ethyl Acetate, Heptane)
3, UN 1993, PG II (ERG #: 128)
EPA Waste Codes #: F005, F003, D001, D018
Centrifuge Solvent - Auth. #: 9015-M(Milsolv Auth. #: 041296M)

R.Q. WASTE, FLAMMABLE SOLIDS, ORGANIC, N.O.S. (Xylene, Toluene)
4.1, UN 1325, PG III (ERG #: 133)
EPA Waste Codes #: F005, F003, D001, D018
Dried P-Matte - Auth. #: 9505-04167
(Hydrite Auth. #: 117016-M)

NON-REGULATED MATERIAL
Spent Absorbents & Pads (Oil soaked only)

Rineco Auth. #: 9604-04461

NON-REGULATED MATERIAL Waste Oil
Rineco Auth. #: 9606-06220

Serigraph Inc. 3701 E. Decorah Road West Bend, WI 53095

(414) 838-8644

SPE-002-F

REV E 10/21/06

WIT560011215

EPA ID NUMBER

R.Q. WASTE, PRINTING INK
3, UN 1210, PG III (ERG #: 129)
EPA Waste Code #: D001
Water Base Screen Ink - Auth. #: 9602-03409
(Hydrite Auth. #: 18789-M)

R.Q. WASTE, FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Ethyl Acetate) 3, UN 1993, PG II (ERG #: 128) EPA Waste Codes #: F005, F003, D001, D018 S/S Solv/Parts Cinr. (Stod Solv) - Auth. #: 112474-M-

R.Q. WASTE, FLAMMABLE LIQUID, N.O.S. (Isopropyl Alcohol, Toluene)
3, UN 1993, PG II (ERG #: 128)
EPA Waste Codes #: F005, D001, D018
PIt. 1 O/S Cntrfg. Solv. - Auth. #: 101804-M-

WASTE, COMBUSTIBLE LIQUID, N.O.S. (Petroleum Distillates)
Combustible Liquid, NA 1993, PG III (ERG #: 128)
EPA Weste Code #: D018
Parts Clnr, Blend 4637 - Auth. #: 106855-M-

NON-REGULATED WASTES

NON-REGULATED MATERIAL Used Rags

Rineco Auth. #: 9602-02881

GENERATOR INFORMATION

24 HOUR EMERGENCY PHONE NUMBER

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# **GENERAL WASTE STREAMS**

	<u>LABELING</u>	
PROPER LABEL CORRECT DOT NAME CORRECT HAZARD CLASS & UN/NA # CORRECT GENERATOR INFORMATION CORRECT EPA ID # & EPA WASTE # ACCUMULATION START DATE CORRECT AUTHORIZATION # NAME STENCILED ON DRUM ALL NON-WASTE INFORMATION REMOVED	YES NO YE	
	DRUM CONDITION	
FREE OF RUST FREE OF LEAKS FREE OF DENTS FREE OF CONTAMINATION - (CLEAN)	YES NO YES NO YES NO YES NO	
<u>cc</u>	OMMENTS/REMARKS	
MATERIAL ITEM & FAULT	CORRECTIVE ACTION TAKEN	
1		
2	2	
3	3	
<u>.</u>	CENTRIFUGE WASTE	
PROPER LABEL CORRECT DOT NAME CORRECT HAZARD CLASS & UN/NA # CORRECT GENERATOR INFORMATION CORRECT EPA ID # & EPA WASTE # ACCUMULATION START DATE CORRECT AUTHORIZATION # NAME STENCILED ON DRUM ALL NON-WASTE INFORMATION REMOVED	LABELING   YES	
DRUM CONDITION		
FREE OF RUST FREE OF LEAKS FREE OF DENTS FREE OF CONTAMINATION - (CLEAN)	YES NO YES NO YES NO	
cc	OMMENTS/REMARKS	
MATERIAL ITEM & FAULT	CORRECTIVE ACTION TAKEN	
1	1	
2	2	
3		
SPE-002-F REV. E 10/21/96	autoir	nsp.doc

# SOG - PLANT 3 WASTE INSPECTION FORM

DATE:	 INSPECTED BY:	
TIME:		
•		

# MATERIAL IDENTIFICATION KEY

# **HAZARDOUS WASTES**

R.Q. WASTE, PRINTING INK 3, UN 1210, PG II (ERG #: 129) EPA Waste Code #: D001, D018 Conv. Screen Ink - Auth. #: 9505-04322 (Hydrite Auth. #: 112238-M-)

3, UN 1210, PG II (ERG #: 129) EPA Waste Code #: D001, D018, D035 UV Screen Ink - Auth. #: 112256-M-

R.Q. WASTE, PRINTING INK

R.Q. WASTE, FLAMMABLE SOLIDS, ORGANIC, N.O.S. (Xylene, Toluene)
4.1., UN 1325, PG III (ERG #: 133)
EPA Waste Code #: F005, F003, D001, D018
P-Matte/KC/9600 Ink - Auth. #: 9505-04171

# NON-REGULATED MATERIALS

NON-REGULATED MATERIAL Waste Oil
Rineco Auth. #: 9606-06221

# **GENERATOR INFORMATION**

Serigraph Inc. 503 Hi Mount Road West Bend, WI 53095

# 24 HOUR EMERGENCY PHONE NUMBER

(414) 838-8644

# **EPA ID NUMBER**

WID982626327

-	LABELING	
PROPER LABEL CORRECT DOT NAME CORRECT HAZARD CLASS & UN/NA # CORRECT GENERATOR INFORMATION CORRECT EPA ID # & EPA WASTE # ACCUMULATION START DATE CORRECT AUTHORIZATION # NAME STENCILED ON DRUM ALL NON-WASTE INFORMATION REMOVED	YES NO	
<u>n</u>	RUM CONDITION	
FREE OF RUST FREE OF LEAKS FREE OF DENTS FREE OF CONTAMINATION - (CLEAN)	YES NO YES NO YES NO YES NO	
COI	MMENTS/REMARKS	
MATERIAL ITEM & FAULT	CORRECTIVE ACTION TAKEN	
1	1	_
2	2	
		_

# ACE - PLANT 4 WASTE INSPECTION FORM

DATE:	 INSPECTED BY:	
TIME:	<del></del>	

# MATERIAL IDENTIFICATION KEY

# **HAZARDOUS WASTES**

R.Q. WASTE, PRINTING INK
3, UN 1210, PG II (ERG #: 129)
EPA Waste Codes #: D001, D018, D035
Conv. Screen Ink - Auth. #: 9505-04323
(Hydrite Auth. #: 112244-M-)

(n-Butanol, Petroleum Distillate)
3, UN 1993, PG III (ERG #: 128)
EPA Waste Codes #: D001, D018
Adh/UV Screen Ink Mixture - Auth. #: 112242-M-

R.Q. WASTE, FLAMMABLE LIQUID, N.O.S.

WASTE, COMBUSTIBLE LIQUID, N.O.S. (Petroleum Distillate)
Combustible Liquid, NA 1993, PG III (ERG #: 126)
EPA Waste Code #: D018
Parts Cinr. Blend 4637 - Auth. #: 116363-M-

# NON-REGULATED MATERIALS

NON-REGULATED MATERIAL Waste Oil Rineco Auth. #: 9606-06222

# **GENERATOR INFORMATION**

Serigraph Inc. 2230 Stonebridge Circle West Bend, WI 53005

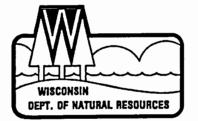
# **24 HOUR EMERGENCY PHONE NUMBER**

(414) 838-8644

# **EPA ID NUMBER**

WID988636478

PROPER LABEL CORRECT DOT NAME CORRECT HAZARD CLASS & UN/NA # CORRECT GENERATOR INFORMATION CORRECT EPA ID # & EPA WASTE # ACCUMULATION START DATE CORRECT AUTHORIZATION # NAME STENCILED ON DRUM ALL NON-WASTE INFORMATION REMOVED	YES       NO         YES       NO
FREE OF RUST FREE OF LEAKS FREE OF DENTS FREE OF CONTAMINATION - (CLEAN)	M CONDITION  YES NO YES NO YES NO YES NO YES NO
COMME	NTS/REMARKS
MATERIAL ITEM & FAULT	CORRECTIVE ACTION TAKEN
1	1
2	2
3	3



# State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

# Southeast District - Annex building

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

File Ref: 1408

FID #: 267083850 ERR LUST

### George E. Meyer Secretary

January 30, 1995

Mr. J. Thomas Ravn Serigraph, Inc. 760 Indiana Ave. P.O. Box 438 West Bend, WI 53095

RE: Serigraph, Inc. 760 Indiana Ave., West Bend, WI Former Aboveground Storage Tank Farm

Dear Mr. Ravn:

I have completed a review of the case file for the subject site including correspondence (dated December 1, 1994) prepared by Advent Environmental Services, Inc. The correspondence contains the results of soil sampling conducted in September 1994.

Based on my review, the following items should be addressed as you consider various options for the site.

- The location and volume of remaining contaminated soil must be more accurately determined. This information should be based on the results of laboratory analysis, to the extent that site conditions permit. Please submit the results of investigation activities performed relative to this objective. Include a map, cross section and volume estimate (with calculations).
- Please provide a table of groundwater elevation data collected during the five sampling events. Submit groundwater table contour maps for each sampling event.
- 3. What is the status of the groundwater recovery sump installed in the east part of the excavation? Has the sump ever been sampled? Has any water been removed from the sump?

Please submit the listed information to the WDNR, along with conclusions and recommendations. This site is currently ranked "medium priority." Therefore, you do not need WDNR approval before proceeding with site activities. However, in accordance with Chapter NR 716.09, work plans must be submitted.



Mr. J. Thomas Ravn

RE: Serigraph, Inc., 760 Indiana Ave., West Bend WI

Former Aboveground Storage Tank Farm

January 30, 1995

Page 2

Thank you for your cooperation. I apologize for the delay in reviewing your submittal. If you have any questions, please contact me at (414) 961-2746.

Sincerely,

Nancy S. Kochis Nancy S. Kochis

Hydrogeologist

cc: Peter Pavalko, Advent Environmental Services, Inc.

 $\sqrt{\text{SED}}$  case file

# ADVENT

DEPARTMENT OF NATURAL RESOURCES SED

1994 DEC -2 PM 3: 15

ENVIRONMENTAL SERVICES, INC.

December 1, 1994

Mr. Tom Ravn Serigraph, Inc. 760 Indiana Avenue West Bend, WI 53095

RE: Serigraph - Plant #1, 760 Indiana Avenue, West Bend, WI. Advent Project No. 95036.01.

### Dear Tom:

On September 7, 1994 Advent collected two soil samples from a geoprobe boring advanced between the two passive air vents near the northwest corner of the building. The samples were collected within an area of contaminated soil that was left in-place when the majority of impacted soil was excavated in the summer of 1991. The purpose of the sample collection was to determine if petroleum constituent concentrations had decreased over the last three years. A sample collected from the excavation wall adjacent to the northwest corner of the building in 1991 exhibited a total petroleum hydrocarbon as diesel concentration of 6,440 ppm. That sample was collected from a depth of five feet below ground surface (bgs).

Geoprobe boring B-1 was completed 32 inches west of the wall and nine-feet, two inches south of the northwest corner of the building. The boring was installed at a slight angle in an attempt to sample as near to the building as possible. Groundwater was encountered at a depth of ten feet bgs. The location of the boring is depicted on Figure 1 and in the photographs provided in Attachment 1, Screening of soil samples with a photoionization detector (PID) produced PID responses of 25 ppm, 190 ppm, and 220 ppm at the 5 to 7, 7 to 9, and 9 to 11 foot depth intervals, respectively. A copy of the soil boring log, Form 4400-122, is provided in Attachment 2. Soil samples from the 5 to 7 and 9 to 11 foot depth intervals were submitted to the laboratory for diesel range organic (DRO) and petroleum volatile organic (PVOC) analyses. A copy of the analytical report is provided in Attachment 3. Results of the analyses are provided in Table 1.

# SERIGRAPH, INC. - PLANT NO. 1 WEST BEND, WI DATE SAMPLED: SEPTEMBER 7. 1994

Sample I.D.	Boring	Depth	PID (ppm)	DRO (ppm)	PVOC (ppb)
SB-1A	B-1	5-7	25	27	benzene - 2.2 toluene - 6.3 1,2,4-trimethylbenzene - 15 xylene - 63
SB-1B	B-1	9-11	220	10,000	benzene - 92 ethylbenzene - 270 toluene - 6.0 1,2,4-trimethylbenzene - 4,800 1,3,5-trimethylbenzene - 1,600 xylene - 4,300

These analytical results suggest that biodegradation or flushing of the unsaturated zone has reduced petroleum constituent concentrations. The sample collected in 1991 at five feet bgs exhibited a DRO concentration of 6,440 ppm. Sample SB-1A, collected from approximately the same location at a depth of 5 to 7 feet indicated a DRO concentration of 27 ppm. Unfortunately, soils at the soil-groundwater interface are still significantly impacted by DROs and PVOCs.

Advent estimates that the volume of unsaturated, petroleum-impacted soil is limited to approximately 40 cubic yards that are present against the building's foundation. The footing of the building extends to a depth of eight to ten feet below ground surface. The foundation will prevent the migration of petroleum constituents in the unsaturated soils. The petroleum constituents are most likely moving vertically to the groundwater and migrating to the northeast. The collection and analysis of water samples from monitoring wells MW-3 and MW-4, which are northeast of the remaining impacted soil, suggests that petroleum constituents have not migrated off-site.

Although the volume of soil is relatively limited, the DRO, benzene, and xylene concentrations detected in soil sample SB-1B are above the NR 700 proposed closeout guidelines. Potential remediation options include:

- Excavation and Treatment Soils could be carefully excavated and thermally treated off-site.
- Active Soil Venting (SV) SV would reduce the concentrations of PVOCs and DROs, but would be prohibitively expensive considering the very limited volume of soil remaining at the site. In addition, the venting would only be marginally effective on the DROs and would most likely not reduce concentrations below NR 700 closeout guidelines.
- Groundwater Pump and Treatment Groundwater could be pumped and treated from the existing groundwater recovery well in an attempt to flush and recover petroleum constituents through the "smear" zone. This would probably take many years and also be very costly.

It appears that the most economical and practical remedial alternative is to excavate the remaining impacted soil that is west of the building wall. The excavation should be completed down to the approximate footing depth where the higher concentration of DROs remain. No soil beneath the building can be feasibly removed. If the majority of remaining impacted soil that is accessible to excavation is removed, Advent believes that the limited volume of soil that may remain would not represent an environmental threat and the site should be closed. Groundwater samples collected from MW-4 indicate that impacted groundwater is not migrating off-site.

Advent recommends that Serigraph request a meeting with Ms. Nancy Kochis, Wisconsin DNR, to discuss the results of this latest assessment and the remediation and closure of the site.

Please call me at 238-1874, ext. 3016 when you have talked to Ms. Kochis and scheduled a meeting.

Sincerely,

ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko, CHMM Environmental Scientist

cc: Nancy Kochis, WDNR

95036geo.let



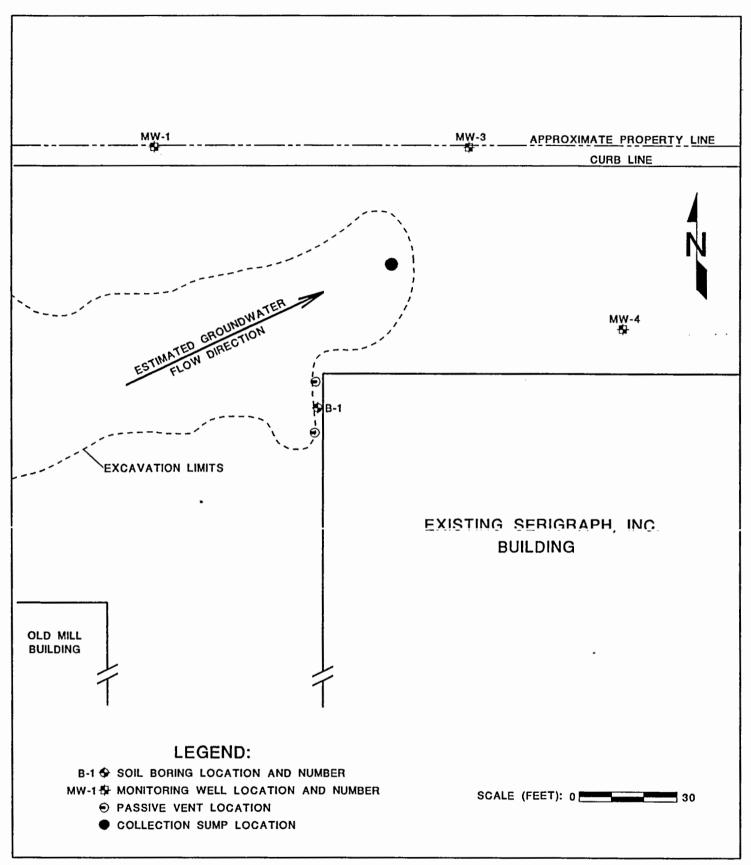


FIGURE 1 SITE FEATURES AND SOIL BORING LOCATIONS SERIGRAPH INCORPORATED WEST BEND, WISCONSIN

ADVENT

ENVIRONMENTAL SERVICES, INC. DATE: 11/28/94 DRAWING # 95036.01A ATTACHMENT 1

# FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Serigraph, Inc. - Plant #1 (#95036.01) PAGE 1 OF 1

DATE: 9/7/94

TIME: 3:15 p.m.

DIRECTION OF PHOTOGRAPH:

East

WEATHER CONDITIONS:

Sunny

75°F

PHOTOGRAPHED BY:

Pete Pavalko



DESCRIPTION: Pictured is the location of geoprobe boring B-1 completed between the two passive air vents.

ATTACHMENT 2

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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.

711	GENERAL INFORMATION			(2) FAC	ILITY NAME					
Well/Drillhole/Borehole County					Original Well Owner (If Known)					
	Location WASHING for			Seringh INC						
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(3)	Original Well/Drillhole/Borehole C		pleted On	(4) Depu	to Water (Fee					
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	(Dail)	<u>/</u>	<del></del>		s) Removed?		Yes No P Not Applicable			
	<b>—</b> • • • • • • • • • • • • • • • • • • •	Caratan Da	 		Removed?					
	Monitoring Well	Construction Re	<del>-</del>			. ⊔;	les No Not Applicable			
	☐ Water Well	☑ Yes	∐ <b>№</b>	Casing Left in Place? Yes No If No, Explain						
	Drillhole	'								
	M Borehole GEODIULE									
	Brank GEOPIUSE			Was	Casing Cut Off	Below Surface?	∏ Yes ∏ No			
				Did Sealing Material Rise to Surface? Yes No						
	Construction Type:	C D	E .	•						
	☐ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (Specify)					fter 24 Hours?	☐ Yes ☐ №			
					es, Was Hole I	Retopped?	☐ Yes ☐ No			
					(5) Required Method of Placing Sealing Material					
	Formation Type:  Unconsolidated Formation  Defact:  Total Well Depth (ft.)  Casing Diameter (ins.)				``					
					Conductor Pipe-Gravity Conductor Pipe-Pumped					
					mp Bailer	ΠC	Other (Explain)			
					(6) Sealing Materials For monitoring wells and					
	(From groundsurface)			Neat Cement Grout monitoring well boreholes only						
				∐ Sa	nd-Cement (Co	mcrete) Grout				
	Casing Depth (ft.) NA	V 1.00			ncrete		Bentonite Pellets			
				Па	ay-Sand Slurry		Granular Bentonite			
	Mas Wall Appular Space Course?	☐ Yes [	No Unknown	==	ntonite-Sand S		Bentonite - Cement Grout			
	Was Well Annular Space Growtee?			_		•	- <del>-</del>			
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ATTACHMENT 3



September 22, 1994

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko

Project: Serigraph

Enclosed are the results from 2 soil samples received at Great Lakes Analytical on September 8, 1994. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
4090546	Soil: SB-1A	9/7/94	1,2-Dichlorethane, 5030/8021 PVOC's, EPA 5030/8020 Percent Solids by EPA 160.3 WDNR DRO
4090547	Soil: SB-1B	9/7/94	1,2-Dichlorethane, 5030/8021 PVOC's, EPA 5030/8020 Percent Solids by EPA 160.3 WDNR DRO

This report may not be reproduced, except in full, without the written approval of the laboratory.

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

GREATLAKES ANALYTICAL

Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089

(708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Sample Descript: Analysis for:

Serigraph

Soil

Analysis for: Percent Solids by EPA 160.3 First Sample #: 409-0546

Sampled:

Sep 7, 1994 Sep 8, 1994

Received: Sep 8, 1

Analyzed: SReported: S

Sep 9, 1994 Sep 22, 1994

# **LABORATORY ANALYSIS FOR:**

# Percent Solids by EPA 160.3

Sample Number	Sample Description	Detection Limit %	Sample Result %
409-0546	SB-1A	0.10	92
409-0547	SB-1B	0.10	82

GREAT LAKES ANALYTICAL

Kevih W. Keeley Laboratory Director

4090546.ADV <1>



Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092

Attention: Pete Pavalko

Client Project ID: Matrix Descript: Analysis Method:

First Sample #:

Soil **WDNR DRO** 409-0546

Serigraph

Sampled: Sep 7, 1994 Received: Extracted: Analyzed:

Sep 8, 1994 Sep 12, 1994

Sep 14, 1994 Reported: Sep 22, 1994

## **DIESEL RANGE ORGANICS**

Sample Number	Sample Description	<b>Detection Limit</b> mg/kg, Dry Weight (ppm)	High B.P. Hydrocarbons mg/kg, Dry Weight (ppm)	Chromatogram Description	
409-0546	SB-1A	5.4	27	Diesel Pattern	
409-0547	SB-1B	610	10,000	Diesel Pattern	

High Boiling Point Hydrocarbons is performed as described in Leaking Underground Storage Tank Analytical Guidance, July 1993 WDNR SW 130 93 REV. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keelev Laboratory Director



**Analyte** 

Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Serigraph Soil: SB-1A EPA 5030/8020 409-0546

**Detection Limit** 

Sampled: Received: Analyzed: Sep 7, 1994 Sep 8, 1994 Sep 14, 1994

Reported: Sep 22, 1994

Sample Results

## PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

1	μg/kg, Dry Wei	ight	μg/kg, Dry Weight
Benzene	2.2	*************************	2.2
Ethyl Benzene	5.5		N.D.
Marked A Destal Calcar	rr		ND

 Ethyl Benzene
 5.5
 N.D.

 Methyl-t-Butyl Ether
 55
 N.D.

 Toluene
 5.5
 6.3

 124 Trimethylbenzene
 11
 15

 135 Trimethylbenzene
 11
 N.D.

 Xylene
 17
 63

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GRÉAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director



Client Project ID: Sample Descript: Analysis Method: Lab Number:

Serigraph Soil: SB-1B EPA 5030/8020 409-0547 Sampled: Sep 7, 1994 Received: Sep 8, 1994 Analyzed: Sep 14-19, 1994 Reported: Sep 22, 1994

## PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit	Sample Results
•	$\mu \mathrm{g}/\mathrm{kg}$ , Dry Weight	$\mu$ g/kg, Dry Weight

Benzene	2.4	 92
Ethyl Benzene	6.0	 270
Methyl-t-Butyl Ether	60	 N.D.
Toluene	6.0	 6.0
124 Trimethylbenzene	12	 4800
135 Trimethylbenzene	12	 1600
Xylene	18	 4300

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT-LAKES ANALYTICAL

Kévin W. Keeleý Laboratory Director





Client Project ID: Sample Descript: Analysis Method:

Lab Number:

Serigraph Soil: SB-1A 5030/8021 409-0546 Sampled: Received: Analyzed:

Sep 7, 1994 Sep 8, 1994

Reported:

Sep 14, 1994 Sep 22, 1994

## **VOLATILE ORGANIC COMPOUND (5030/8021)**

Analyte	Detection Limit μg/kg, Dry Weight	Sample Result $\mu g/kg$ , Dry Weight		
1,2-Dichloroethane	. 3.3	N.D.		

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director



(708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko

Client Project ID: Se Sample Descript: So Analysis Method: 503 Lab Number: 409

Serigraph Soil: SB-1B 5030/8021 409-0547 Sampled: Sep 7, 1994
Received: Sep 8, 1994
Analyzed: Sep 14, 1994
Reported: Sep 22, 1994

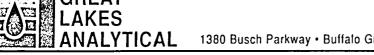
## **VOLATILE ORGANIC COMPOUND (5030/8021)**

Analyte	Detection Limit μg/kg, Dry Weight	Sample Result $\mu$ g/kg, Dry Weight
1,2-Dichloroethane	. 3.6	N.D.

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

GREAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director



Client Project ID: Serigraph Matrix: Soil

QC Sample Group: 4090546-547

Reported: Sep 22, 1994

(708) 808-7766 FAX (708) 808-7772

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	Percent Solids	
Method: Analyst: Reporting Units: Date Analyzed: QC Sample #:	160.3 S. Pawlak % Sep 9, 1994 BLK090994	, •
Sample Conc.:	N.D.	
Spike Conc. Added:	950	
Conc. Matrix Spike:	* 860	
Matrix Spike % Recovery:	90	
Conc. Matrix Spike Dup.:	940	•
Matrix Spike Duplicate % Recovery:	100	
Relative % Difference:	10	

Laboratory blank contained the following analytes: None Detected

Kevin W. Keeley **Laboratory Director**  % Recovery: Conc. of M.S. - Conc. of Sample x 100 Spike Conc. Added Relative % Difference: x 100

Conc. of M.S. - Conc. of M.S.D. (Conc. of M.S. + Conc. of M.S.D.) / 2



Advent Environmental Services 6100 W. Executive, Suite E

Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Serigraph

Matrix: Soil

QC Sample Group: 4090546-547

Reported: Sep 22, 1994

#### **QUALITY CONTROL DATA REPORT**

ANALYTE **WDRO** 

**WDRO** Method: Analyst: E. Yates

**Concentration:** 40

**Units:** mg/kg

**MATRIX SPIKE DATA** 

**Date Prepared:** Sep 12, 1994 **Date Analyzed:** Sep 12, 1994 Instrument I.D.# GC-10

**Matrix Spike** 

85 % Recovery:

**METHOD SPIKE** & DUP. DATA

**Date Prepared:** Sep 12, 1994 **Date Analyzed:** Sep 12, 1994 Instrument I.D.# GC-10

**Method Spike** 

% Recovery: 87

**Method Spike Duplicate %** 

Recovery: 84

Relative %

Difference: 3.5

AT LAKES ANALYTICAL

Laboratory Director

% Recovery:	Conc. of M.S Conc. of Sample	x 100
ł	Spike Conc. Added	

Relative % Difference: Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2



Advent Environmental Services 6100 W. Executive, Suite E

Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Serigraph

Matrix: Soil

QC Sample Group: 4090546-547

Reported: Sep 22, 1994

### **QUALITY CONTROL DATA REPORT**

ANALYTE	_	<b>-</b>	Pol. II.	V. (-	
L	Benzene	Toluene	Ethylbenzene	Xylene	
Method: Analyst: Concentration:	8020 M. Vang 50	8020 M. Vang 50	8020 M. Vang 50	8020 M. Vang 50	
Units:	ng	ng	ng	ng	
MATRIX SPIKE DATA	-				
Date Analyzed: Instrument I.D.#	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 S GC-6	Sep 14, 1994 GC-6	
Matrix Spike % Recovery:	90	92	98	98	
METHOD SPIKE & DUPLICATE DATA					
Date Analyzed: Instrument I.D.#	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 S GC-6	GC-6	
Method Spike % Recovery:	104	108	114	112	•
Method Spike Duplicate % Recovery:	106	108	114	114	
Relative % Difference:	1.9	0	0	1.8	

GREAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director % Recovery: Conc. of M.S. - Conc. of Sample x 100

Spike Conc. Added

Relative % Difference: Conc. of M.S. - Conc. of M.S.D. x 100

(Conc. of M.S. + Conc. of M.S.D.) / 2

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Advent Environmental Services 6100 W. Executive, Suite E

Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Serigraph Matrix: Soil

QC Sample Group: 4090546-547

Reported: Sep 22, 1994

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	cis 1,2-Dichloro-	Trans 1,2-Dichloro-		1,1,1-Trichloro-	Trichloro-	Chloro-	
	ethene	ethene	Chloroform	ethane	ethene	benzene	
Method: Analyst:	8021 M. Vang						
Concentration: Units:	50 ng	50 . ng	50 ng	50 ng	50 ng	50 ng	, , · · · ·
MATRIX SPIKE DATA							
Date Analyzed: Instrument I.D.#	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	
Matrix Spike % Recovery:	96	92	92	92	88	94	
METHOD SPIKE & DUP. DATA							
Date Analyzed: Instrument I.D.#	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	Sep 14, 1994 GC-6	
Method Spike % Recovery:	102	112	108	108	102	104	
Method Spike Duplicate % Recovery:	106	114	108	108	104	106	
Relative % Difference:	3.8	1.8	0	0	1.9	1.9	

GREAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director

% Recovery: Conc. of M.S. - Conc. of Sample x 100 Spike Conc. Added Relative % Difference: Conc. of M.S. - Conc. of M.S.D. x 100 (Conc. of M.S. + Conc. of M.S.D.) / 2



Advent Environmental Services 6100 W. Executive, Suite E

Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Serigraph Matrix: Soil

QC Sample Group: 4090546-547

Reported: Sep 22, 1994

### **QUALITY CONTROL DATA REPORT**

ANALYTE			Ethyl			
	Benzene	Toluene	benzene	Xylene		:
Method:	8021	8021	8021	8021		
Analyst:	M. Vang	M. Vang	M. Vang	M. Vang		
Concentration:	50	50	50	50		
Units:	ng	ng	ng	ng		
MATRIX SPIKE DATA						
Date Analyzed:	Sep 14, 1994	Sep 14, 1994	Sep 14, 1994	Sep 14, 1994		
Instrument I.D.#	GC-6	GC-6	GC-6	GC-6		
Matrix Spike						
% Recovery:	90	92	98	98		
	•					
<b>METHOD SPIKE</b>						
& DUP. DATA						
Data Apalimadi	Sep 14, 1994	Sep 14, 1994	Sep 14, 1994	Son 14 1004		
Date Analyzed: Instrument I.D.#	GC-6	GC-6	GC-6	GC-6		
msuament i.b.#	GC-0	40-0	00-0	00-0		
<b>Method Spike</b>						
% Recovery:	104	108	114	112	•	
Method Spike		400	444	444		
Duplicate %	100	108	114	114		
Recovery:	106					
Relative %						
Difference:	1.9	0	0	1.8		
	_					

GREAT LAKES ANALYTIÇAL

Kevin W. Keeley **Laboratory Director**  % Recovery:

Conc. of M.S. - Conc. of Sample

x 100

Spike Conc. Added

Relative % Difference:

Conc. of M.S. - Conc. of M.S.D. (Conc. of M.S. + Conc. of M.S.D.) / 2

x 100



# CHAINOFEUSTODY REPORT

1380 BUSCH PARKWAY BUFFALO GROVE, ILLINOIS 60089-4505 (708) 808-7766 FAX (708) 808-7772

ANALYTICAL										4	,
Client: ADVENT		Project:	Seria	191h			TAT:	5 DAY 4 D	7 W 3 L	9 L DAY 2 L	DAY 1 DAY < 24 HR
Address:		Sampler	P. Paval	IKO			DAT	E RESULTS NE			5/94
MEQUON		PO #:	95036	5.01			TEN	IPERATURE UPC	N REC		ON ICE
Report to: P. Pavelko		Phone #			8 FAX #: 1	414-238-19					
PFD Depth FIELD ID, LOCATION (feet)	44			Pos Couranters	SERMEN	ANALYSIS	S TYPE			SAMPL CONTRO	LABORATORY ID NUMBER
SB-1A 25 5-7	9/7 3:00	5	2	1	DRO,	PVOCS+ 1	1, 2 - D	CA		-	4090546
SB-1B 220 9-11	9/7 3:10	5	ī	?	DRO, A	DVOCS +	1,2-0	CA		7	4090547
3]											
0	-										
RELINQUISHED GATE/94  PIME	RECEIVED ()	Line	996	RELING	QUISHED		DATE TIME	RECEIVED			DATE TIME
RELINQUISHED DATE TIME	RECEIVED		D JE Tride	RELING	QUISHED	•	DATE TIME	RECEIVED			DATE
COMMENTS:			Inst	!			iiinE	1			TIME
									1		



August 30, 1994

George E. Meyer

Secretary

#### State of Wisconsin

## **DEPARTMENT OF NATURAL RESOURCES**

### Southeast District - Annex building

Post Office Box 12436 4041 N. Richards St. Milwaukee, Wisconsin 53212

TELEPHONE: 414-961-2727 TELEFAX #: 414-961-2770

File Ref: 1408

FID #: 267083850

ERR LUST

Mr. J. Thomas Ravn Serigraph, Inc. 760 Indiana Ave. P.O. Box 438 West Bend, WI 53095

> RE: Former Aboveground Storage Tank Farm, Serigraph, Inc. 760 Indiana Ave., West Bend, WI

Dear Mr. Ravn:

The purpose of this letter is to follow up on our August 26, 1994 telephone conversation in which we discussed proposed soil sampling at Serigraph.

Based on my review of your August 22, 1994 letter and attachments, the proposed work is appropriate to evaluate the effectiveness of the passive venting system on soil quality.

Thank you for your cooperation. If you have any questions, please contact me at (414) 961-2746.

Sincerely,

Nancy S. Kochis

Hydrogeologist

√cc: SED case file #1408

Nancy S. Kochis



August 22, 1994

Nancy Kochis Hydrogeologist Department of Natural Resources 4041 N. Richards St. Milwaukee, Wi. 53212

Dear Mrs. Kohcis:

We are in receipt of your letters on file # 936, 2000 gallon fuel underground storage tank, and file # 1408, former above ground storage tank farm dated July 18, 1994. It is our understanding that the Department is satisfied with remediation associated with the underground tank and that no further remediation by Serigraph will be required.

With regard to file # 1404 the above ground tank farm, it is our understanding that the DNR wishes Serigraph to review the effectiveness of the passive ventilation which was installed adjacent to the west/north corner of the facility. Serigraph has contacted Advent Environmental Services Inc. and has received a proposal for a soil horing to be performed in the area of the passive ventilation system. We request that the DNR review the enclosed Advent proposal dated August 2, 1994 and reply as to its suitability. If the Department finds the proposal acceptable, Serigraph will proceed with the investigation.

As to the missing cover from one the vent pipes, we have replaced the cover. Should you require further clarification, or wish to discuss any of the matters, please contact me at 414-335-7343.

Sincerely.

J. Thomas Ravn

Coordinator of Environmental Affairs

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## ADVENT

ENVIRONMENTAL SERVICES, INC.

#### **ENVIRONMENTAL CONSULTING**

#### **PROPOSAL**

CLIENT:

Serigraph, Inc.

Contact:

Tom Ravn 1-335-7343

CLIENT ADDRESS: 760 Indiana Avenue, West Bend, WI 53095

SITE NAME: Serigraph - Plant No. 1

SITE LOCATION:

760 Indiana Avenue, West Bend, WI 53095

COUNTY:

Washington

ADVENT ENVIRONMENTAL SERVICES, INC. PROJECT NO. 95036.01

DATE:

August 2, 1994

#### SITE HISTORY

Between June 11 and July 9, 1991, 3,267.57 tons of petroleum-impacted soil was removed from the site. Some impacted soil was left in-place against and beneath the foundation wall and footing. At the limits of the excavation, a soil sample collected near the northwest corner of the building exhibited total petroleum hydrocarbon (TPH) as diesel concentrations of 6,440 parts per million (ppm).

#### PROJECT OBJECTIVE

It is Advent's intent to obtain acceptable site closure from the Wisconsin Department of Natural Resources (WDNR). This will be achieved in accordance with ILHR 47 by the completion of multiple tasks, if necessary. The costs to complete Task One are outlined below. Costs for additional tasks will be estimated based on data collected from the previous task and outlined in change orders requiring client signature prior to proceeding with each task.

#### TASK #1 OBJECTIVE SITE INVESTIGATION

- To provide the client with information regarding the degradation of soil contamination left in-place near the northwest corner of the building.
- To assist the client in obtaining reimbursement through the Petroleum Environmental Cleanup Fund Act (PECFA) program for all eligible costs associated with this investigation.

#### SCOPE OF SERVICES - TASK #1

Advent Environmental Services, Inc. will provide the following services:

- \* Review all available site background information.
- \* Contact appropriate authorities to obtain proper permits and to coordinate the locating and marking of underground utilities and conduits.
- \* Prepare and administer a site-specific safety plan.
- Observe and document the completion of one geoprobe soil boring near the northwest corner of the building. Soils will be sampled using a split spoon sampler at 2.5-foot sampling intervals. Soils will be described according to the Unified Soil Classification System. Borings will be grouted to the surface with bentonite and surface patched as necessary.
- Field screen selected soil samples for volatile organic compounds (VOCs) with a photoionization detector (PID) using the headspace analysis method.
- Collect and analyze two soil samples from the boring as required by WDNR Leaking Underground Storage Tank guidelines. Each sample will be analyzed for diesel range organics (DROs), petroleum volatile organic compounds (PVOCs), and 1,2-DCA.
- \* Evaluate and interpret all field and laboratory results.
- \* Prepare and submit all necessary documentation to obtain PECFA reimbursement of eligible expenses incurred since the last PECFA claim.

#### DOCUMENTATION

Advent will provide the client with a letter-report detailing on-site field activities. This report will contain the soil boring log, site photographs, laboratory data sheets, and a features map. The report will also provide a general discussion outlining possible remediation options based on the site-specific conditions identified during the investigation or a recommendation for closure.

#### SCHEDULE

Upon receipt of a signed proposal, Advent will contact the client to arrange a start date. The report will be submitted within 45 days after completion of field work.

#### STATEMENT OF QUALIFICATION AND EXPERIENCE

- The professional services staff of Advent is comprised of engineers, hydrogeologists, geologists, and other technical professionals. The projects completed by the professional services staff include UST removals, site assessments, site investigations, remedial action plan development, remediation of petroleum-contaminated soil and water, and groundwater monitoring and sampling.
- Each member of Advent's professional staff is registered as a UST site assessor with the Wisconsin Department of Industry, Labor and Human Relations (WDILHR). This registration permits our staff to work on projects that are eligible for reimbursement from the PECFA fund.



#### State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

#### Southeast District - Annex building

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

George E. Meyer Secretary

July 18, 1994

File Ref: 1408 FID #: 267083850 ERR LUST

Mr. J. Thomas Ravn Serigraph, Inc. 760 Indiana Ave. P.O. Box 438 West Bend. WI 53095

RE: REQUEST FOR CASE CLOSURE, Former Aboveground Storage Tank Farm, Serigraph, Inc. 760 Indiana Ave., West Bend, WI

Dear Mr. Ravn:

The Wisconsin Department of Natural Resources (WDNR) reviewed the following reports prepared by Aqua-Tech, Inc. and Advent Environmental Services, Inc.

Phase III Environmental Assessment... (March 1991)

Letter RE: Work plan for remediation of contaminated soils via thermal treatment (April 29, 1991)

Environmental Assessment Report... (September 1991)

Letter RE: Groundwater monitoring... (October 9, 1991)

Letter RE: Additional soil remediation - passive vent installation... (December 16, 1991)

Letter RE: Bi-annual groundwater sampling results (March 31, 1992)

Letter RE: Bi-annual groundwater sampling results (September 29, 1992)

Letter RE: Bi-annual groundwater sampling results (March 15, 1993)

Letter RE: Bi-annual groundwater sampling results (October 25, 1993)

#### CASE SUMMARY

The documents describe investigative and remedial activities associated with an aboveground tank farm formerly located on the northwest portion of the property. Approximately 3267 tons of petroleum contaminated soil were excavated and thermally treated. To remediate additional petroleum



Mr. J. Thomas Ravn

RE: Serigraph, Inc., 760 Indiana Ave., West Bend WI

Former Aboveground Storage Tank Farm

July 18, 1994

Page 2

contaminated soil beneath the northwest corner of the Serigraph building, a passive venting system was installed. Four groundwater monitoring wells were installed west and north of the Serigraph parking lot, and groundwater has been monitored for two years.

#### REQUEST FOR CASE CLOSURE

In considering your request for case closure, the WDNR requires that the effectiveness of venting on soil quality be assessed (*Guidance for Soil Venting Systems*, WDNR, July 1993). Please submit the results of investigative activity performed relative to this objective. When the information is received, I will review this case for closure.

#### GROUNDWATER MONITORING

Based on the information reviewed and other information in WDNR case files, the WDNR is not requiring Serigraph, Inc. to conduct additional groundwater sampling at this time. However, the wells should <u>not</u> be abandoned.

The WDNR is currently assessing potential sources of petroleum compounds detected in Serigraph's groundwater monitoring wells. Access to the monitoring wells may be necessary to obtain water table elevation measurements and groundwater samples. Access by another party would be coordinated with you and the WDNR.

#### SOIL VENTING PIPING

During a site visit on July 12, 1994, I noted that the cover was missing from the north vent pipe. Please replace the cover as soon as possible to prevent surface infiltration and possible tampering.

#### CONCLUSION

The WDNR appreciates the actions you have taken to restore the environment at this site. If you have any questions, please contact me at (414) 961-2746.

Sincerely,

Nancy S. Kochis

Nancy S. Kochia

Hydrogeologist

cc: Peter Pavalko, Advent Environmental Services, Inc. \sqrt{SED} case file #1408

## ADVENT

cecines NOV 0 3 1993

ENVIRONMENTAL SERVICES, INC.

October 25, 1993

Mr. Tom Ravn Environmental Engineer Serigraph, Inc. 760 Indiana Avenue P.O. Box 438 West Bend, WI 53095 Ms. Sibyl Lapinski
 Wisconsin DNR
 4041 N. Richards Street
 P.O Box 12436
 Milwaukee, WI 53212

RE: Bi-annual groundwater sampling results for the Serigraph, Inc. site - Plant No. 1, 760 Indiana Avenue, West Bend, Wisconsin, 53095. Advent Project No. 95036.

Dear Tom and Sibyl:

The purpose of this letter is to document the results of the fifth round of groundwater monitoring at the Serigraph, Inc. site. The first, second, third, and fourth rounds of sampling were completed on September 9, 1991, March 9, 1992, September 11, 1992, and February 26, 1993, respectively. The results of the first, second, third and fourth rounds of sampling were documented in reports dated October 9, 1991, March 31, 1992, September 29, 1992, and March 15, 1993.

The first round of sampling of the four monitoring wells at the site did not detect the presence of volatile organic compounds (VOCs), gasoline or diesel range organics (GROs or DROs) above laboratory detection levels. None of the total lead levels exceeded the Wisconsin Administrative Code - Chapter 140 - Preventive Action Limit (PAL) for lead.

The second round of sampling detected low levels of 1,2,4-trimethylbenzene (TMB), 1,3,5-trimethylbenzene, and o-xylene in monitoring well MW-2.

The third round of sampling detected a DRO concentration of 0.10 mg/l in a sample collected from monitoring well MW-1.

The fourth round of sampling did not detect the presence of DROs or PVOCs above laboratory detection levels.

On September 28, 1993, Advent completed the fifth round of groundwater sampling at the site. All wells were bailed dry prior to sampling. Approximately 10 gallons were removed from each well to assure the collection of a representative sample. When each well had recharged a water sample was collected using a disposable polyethylene bailer. The contents of each bailer were transfered into three 40 ml vials and one 1 liter amber glass jar. Each sample was preserved with HCL. All samples were packed in a cooler and transported to the laboratory with the chain of custody record.

Groundwater samples from each well were analyzed for petroleum volatile organic compounds (PVOCs) and DROs. Sample methodology is presented on the laboratory data sheets. The original laboratory data and chain of custody record are provided in Attachment 1. Refer to Figure 1 (Attachment 2) for a site location map indicating the locations of monitoring wells and other site features.

No PVOCs were detected above laboratory detection levels in groundwater samples collected from monitoring wells MW-1 (MW-1E), MW-2 (MW-2E), MW-3 (MW-3E), or MW-4 (MW-4E).

DROs were detected in samples MW-1E, MW-2E, and MW-3E at concentrations of 720  $\mu$ g/l (ppb), 140  $\mu$ g/l, and 710  $\mu$ g/l, respectively.

No DROs were detected above the 98  $\mu$ g/l laboratory detection level in sample MW-4E.

The September 28, 1993 sampling event was intended to be the final sampling of a two-year, bi-annual sampling program for the Serigraph, Inc. site. Over the preceding two years samples collected from the four wells at the Serigraph, Inc. site have not indicated the presence of significant levels of petroleum constituents. The following table provides an overview of the history of sample results at the Serigraph, Inc. site.

## SUMMARY OF GROUNDWATER SAMPLE RESULTS AT THE SERIGRAPH, INC. SITE - PLANT NO. 1 WEST BEND, WISCONSIN

			Sample Date	•			
Monitoring Well	September 1991	March 1992	September 1992	February 1993	September 1993		
MW-1	ND <sup>1</sup>	ND	DRO - 100 μg/l	ND	DRO - 720 μg/l		
MW-2	ND	1,2,4-TMB - 1.9 μg/l 1,3,5-TMB - 1.0 μg/l o-xylene - 9.46 μg/l	ND	ND	DRO - 140 μg/l		
MW-3	\ ND	ND	ND	ND	DRO - 710 μg/l		
MW-4	ND	ND	ND	ND	ND		

ND = No PVOCs or DROs detected above laboratory detection levels.

The data collected over the past two years suggests that petroleum-impacted groundwater has begun to migrate onto and through the Serigraph, Inc. site over the past six months. Based on the history of petroleum releases from sites upgradient of the Serigraph, Inc. site, Advent believes that the petroleum contamination identified during the September 28, 1993 sampling is a result of contaminants migrating from one or more of the bulk petroleum facilities west of the Serigraph, Inc. site.

Advent requests that the Serigraph, Inc. site be closed and that monitoring of the four wells on the Serigraph property be the responsibility for the entity determined by the Wisconsin Department of Natural Resources (WDNR) to be the responsible party (RP) for this release. Serigraph, Inc. will allow the four wells to be used by the WDNR designated RP. However, the RP will be responsible for eventually abandoning the four wells and all costs associated with well abandonment.

Serigraph, Inc. will abandon the two passive soil vents at the site when the WDNR indicates that the Serigraph, Inc. site can be closed.

Advent will forward a PECFA Form 4 to the WDNR after the soil vents have been removed.

## Page Four

If you have any questions concerning the work completed at the site, please contact me at 238-1874, ext. 3016.

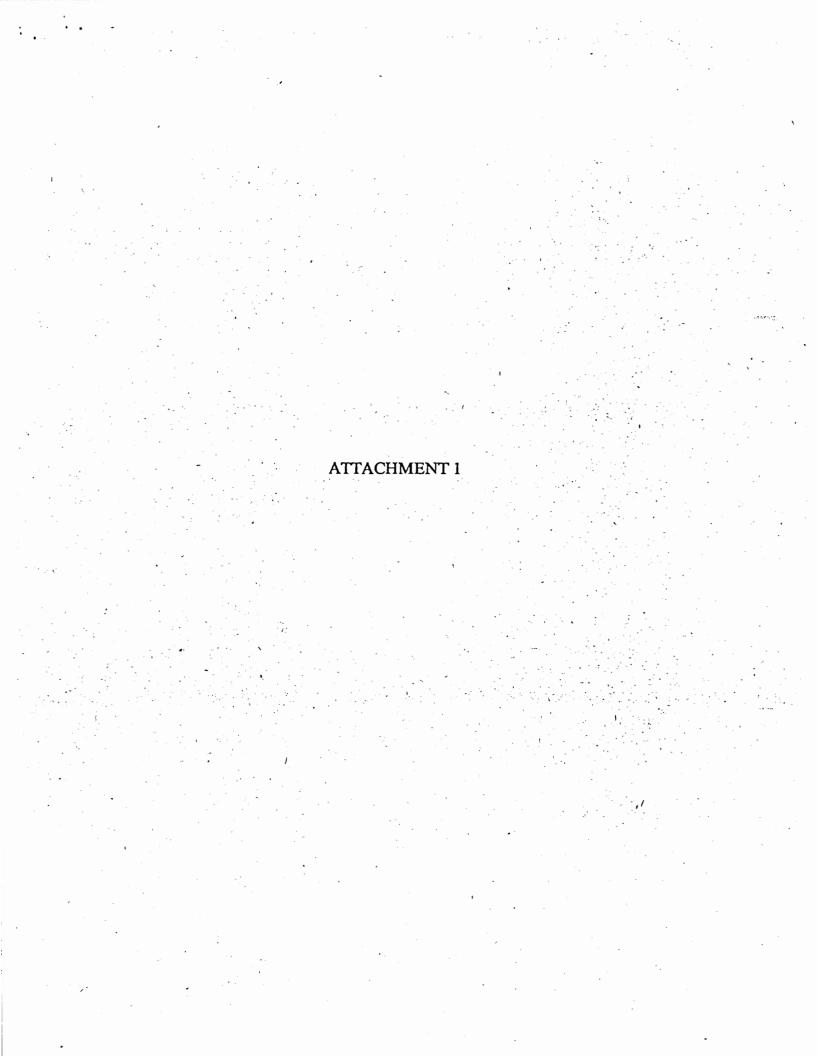
Sincerely,

ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko

**Environmental Specialist** 

cc: Mr. Russ Haupt, WDILHR, P.O. Box 7969, Madison, WI 53707.(with final PECFA claim)



## PRECISION ANALYTICAL LABORATORY

205 WEST GALENA MILWAUKEE, WI 53212 (414) 272-5222 10/19/93 11:02

## Analytical Report

Attn: Client:

Michael K. Neal

Advent Environmental

6100 West Executive Dr. Ste.E

Mequon, WI 53092

WORK ID: 95036 Serigraph

Date Received:

09/30/93

Date Reported:

10/19/93

PAL ORDER #:

9310014

SAMPLE DESCRIPTION	LAB ID	DATE COLLECTED
NW 1E	01.4	00/29/02
MW-1E	01A	09/28/93
MW-1E	01B	09/28/93
MW-1E DUP	02A	09/28/93
MW-1E DUP	02B	09/28/93
MW-2E	03A	09/28/93
MW-2E	03B	09/28/93
MW-3E	04A	09/28/93
MW-3E	04B	09/28/93
MW-4E	05A	09/28/93
MW-4E	05B	09/28/93
TRIP BLANK	06B	09/28/93
FIELD BLANK	07B	09/28/93

Laboratory ID Number (Wisconsin DNR): 241369260

Certified By Jeff Bushner

## **CLIENT: Advent Environmental**

Test	Result	Limit	Units	Analyzed	Extracted	BY	Method
Sample ID: MW-1E			Lab ID:	9310014-01 <i>A</i>	A	Collect	ed: 09/28/93
Mod. DRO (WDNR), Water Diesel Range Organics Heavier than DRO	0.72 NP	0.10 0.050		10/12/93 10/12/93	10/05/93 10/05/93		Wis Mod. DRO
Sample ID: MW-1E			Lab ID:	9310014-01E	3	Collect	ed: 09/28/93
PVOC Water, (WDNR) Benzene Ethylbenzene Methyl-t-butylether Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Total Xylenes	BQL BQL BQL BQL BQL BQL BQL	1.0 1.0 1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l ug/l ug/l	10/09/93 10/09/93 10/09/93 10/09/93 10/09/93 10/09/93		JAH JAH JAH JAH JAH JAH JAH	8020
Sample ID: MW-1E DUP			Lab ID:	9310014-02 <i>A</i>	<b>\</b>	Collect	ed: 09/28/93
Mod. DRO (WDNR), Water Diesel Range Organics Heavier than DRO	BQL NP	0.10 0.051	mg/l mg/l	10/12/93 10/12/93	10/05/93 10/05/93		Wis Mod. DRO
Sample ID: MW-1E DUP			Lab ID:	9310014-02B	3	Collect	ed: 09/28/93
PVOC Water, (WDNR) Benzene Ethylbenzene Methyl-t-butylether Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Total Xylenes	BQL BQL BQL BQL BQL BQL BQL	1.0 1.0 1.0 1.0 1.0 1.0 2.0	ug/l ug/l ug/l ug/l ug/l	10/09/93 10/09/93 10/09/93 10/09/93 10/09/93 10/09/93		JAH JAH JAH JAH JAH JAH JAH	8020
Sample ID: MW-2E			Lab ID:	9310014-03 <i>A</i>	<b>\</b>	Collect	ed: 09/28/93
Mod. DRO (WDNR), Water Diesel Range Organics Heavier than DRO	0.14 NP	0.10 0.050		10/12/93 10/12/93	10/05/93 10/05/93	DLK DLK	Wis Mod. DRO

## **CLIENT: Advent Environmental**

Result	Limit	Units	Analyzed	Extracted	BY	Method
•		Lab ID:	9310014-03B	<b>;</b>	Collect	ed: 09/28/93
						8020
BQL			10/09/93		JAH	
BQL	1.0	ug/l	10/09/93		JAH	ine.
BQL			10/09/93		JAH	
BQL	2.0	ug/l	10/09/93		JAH	
		Lab ID:	9310014-04A	<b>.</b>	Collect	ed: 09/28/93
						Wis Mod. DR
	0.10	mg/l				
NP	0.051	mg/I	10/12/93	10/05/93	DLK	
		Lab ID:	9310014-04B	<b>;</b>	Collecte	ed: 09/28/93
		· · · · · · · · · · · · · · · · · · ·				8020
BQL	1.0	ug/l	10/09/93		JAH	0020
BQL	1.0	ug/l	10/09/93		JAH	
BQL			10/09/93		JAH	
		Lab ID:	9310014-05A		Collecte	ed: 09/28/93
				-	- · · · · · · · · · · · · · · · · · · ·	Wis Mod. DR
BQL	0.098	mg/l	10/14/93	10/05/93	DLK	11 15 1110d, DIC
NP	0.049	mg/l	10/14/93	10/05/93	DLK	
		Lab ID:	9310014-05B	1	Collecte	ed: 09/28/93
						8020
BQL	1.0	ug/l	10/09/93		JAH	
BQL	1.0	ug/l	10/09/93		JAH	
BQL			10/09/93		JAH	
	BQL BQL BQL BQL BQL BQL BQL BQL BQL BQL	BQL 1.0 BQL 1.0 BQL 1.0 BQL 1.0 BQL 1.0 BQL 2.0  0.71 0.10 NP 0.051  BQL 1.0 BQL 1.0 BQL 1.0 BQL 1.0 BQL 1.0 BQL 2.0  BQL 1.0	Lab ID:   BQL	Lab ID: 9310014-03B	Lab ID: 9310014-03B	Lab ID: 9310014-03B   Collects

BQL - Below Quantification Limit NP - Not Present

## **CLIENT: Advent Environmental**

Test	Result	Limit Units	Analyzed Ext	racted BY Method
PVOC Water, (WDNR) Total Xylenes	BQL	2.0 ug/l	10/09/93	8020 JAH
Sample ID: TRIP BLANK		Lab ID:	9310014-06B	Collected: 09/28/93
PVOC Water, (WDNR) Benzene Ethylbenzene Methyl-t-butylether Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Total Xylenes	BQL BQL BQL BQL BQL BQL BQL	1.0 ug/l 1.0 ug/l 1.0 ug/l 1.0 ug/l 1.0 ug/l 1.0 ug/l 2.0 ug/l	10/09/93 10/09/93 10/09/93 10/09/93 10/09/93 10/09/93	8020 JAH JAH JAH JAH JAH JAH JAH
Sample ID: FIELD BLANK		Lab ID:	9310014-07B	Collected: 09/28/93
PVOC Water, (WDNR) Benzene Ethylbenzene Methyl-t-butylether Toluene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Total Xylenes	BQL BQL BQL BQL BQL BQL BQL	1.0 ug/l 1.0 ug/l 1.0 ug/l 1.0 ug/l 1.0 ug/l 1.0 ug/l 2.0 ug/l	10/09/93 10/09/93 10/09/93 10/09/93 10/09/93 10/09/93	8020 JAH JAH JAH JAH JAH JAH

#### 10/19/93

## PRECISION ANALYTICAL LABORATORY

Report Comments

CLIENT: Advent Environmental

PAL Order #: 9310014

All analysis as per approved method found in one or more of the following:
Standard Methods for Evaluation of Water and Wastewater,
17th Edition
Methods for Chemical Analysis for Water and Wastes, Revised March 1983, EPA 600/4-79-020
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Edition 1986 EPA SW846

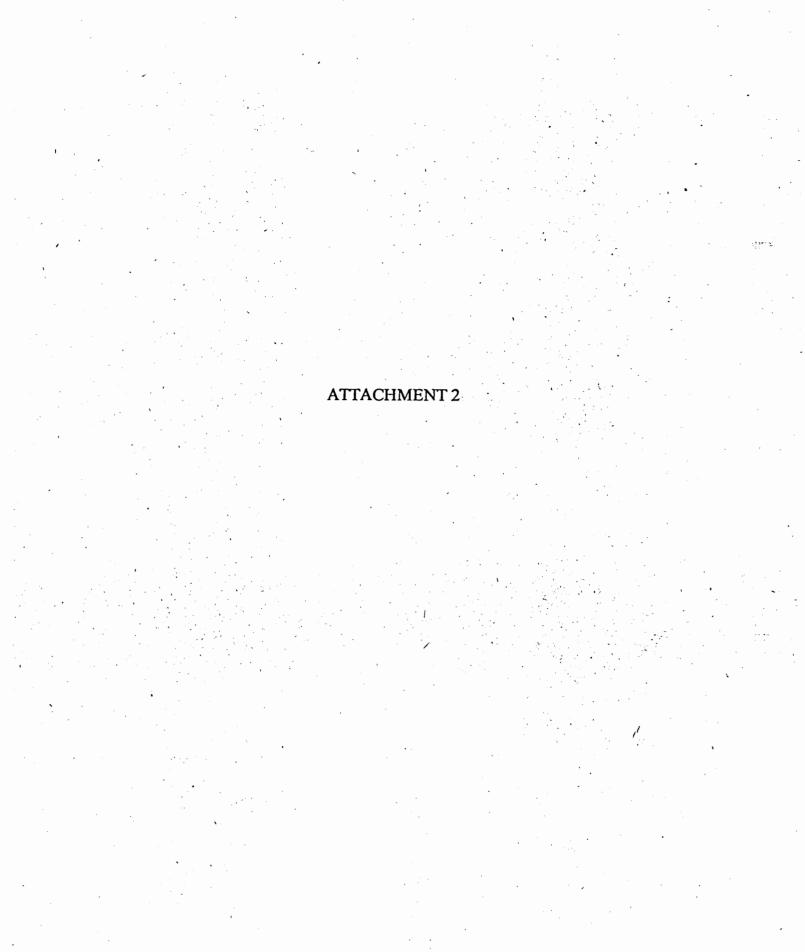
Analysis performed or certified by Precision Analytical Laboratory

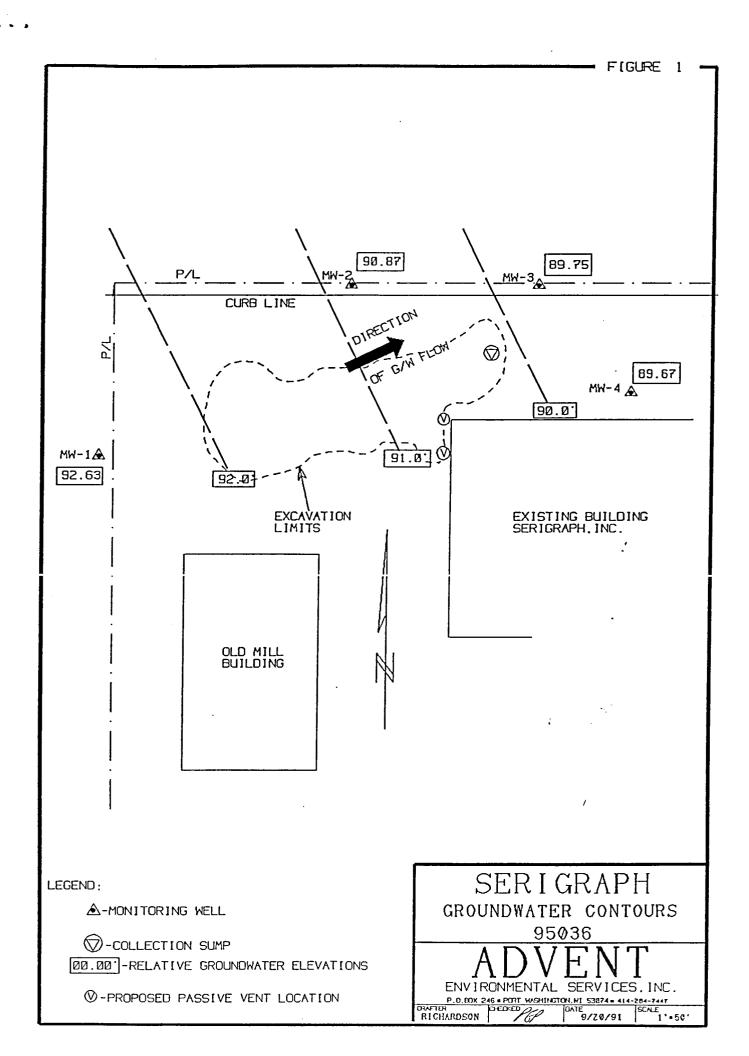
Sample was covered air tight in approved container, shipped in cooler from the source to our lab, temperature upon arrival was 4 degrees C.

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## **CHAIN OF CUSTODY RECORD**

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## ADVENT

ENVIRONMENTAL SERVICES, INC.

March 15, 1993

Mr. Tom Ravn Environmental Engineer Serigraph, Inc. 760 Indiana Avenue P.O. Box 438 West Bend, WI 53095

RE: Bi-annual groundwater sampling results for the Serigraph, Inc. site - Plant No. 1, 760 Indiana Avenue, West Bend, Wisconsin, 53095. AESI Project No. 95036.

The purpose of this letter is to document the results of the fourth round of groundwater monitoring at the Serigraph, Inc. site. The first, second, and third rounds of sampling were completed on September 9, 1991, March 9, 1992, and September 11, 1992, respectively. The results of the first, second, and third rounds of sampling were documented in reports dated October 9, 1991, March 31, 1992, and September 29, 1992.

The first round of sampling of the four monitoring wells at the site did not detect the presence of volatile organic compounds (VOCs), gasoline or diesel range organics (GROs or DROs) above laboratory detection levels. None of the total lead levels exceeded the Wisconsin Administrative Code - Chapter 140 - Preventive Action Limit (PAL) for lead.

The second round of sampling detected low levels of 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and o-xylene in monitoring well MW-2.

The third round of sampling detected a DRO concentration of 0.10 mg/l in a sample collected from monitoring well MW-1.

On February 26, 1993, AESI completed the fourth round of groundwater sampling at the site. All wells were pumped dry prior to sampling. Approximately 15 gallons were removed from each well to assure the collection of a representative sample. When each well had recharged following the final purge cycle, a water sample was collected using a disposable polyethylene bailer. The contents of each bailer were poured into four 40 ml vials and one 1 liter amber glass jar. Each sample was preserved with HCL. All samples were packed in a cooler and transported to the laboratory with the chain of custody record.

Groundwater samples from each well were analyzed for petroleum volatile organic compounds (PVOCs) and DROs. Sample methodology is presented on the laboratory data sheets. The original laboratory data and chain of custody record are attached. Refer to Figure 1 for a site location map indicating the locations of monitoring wells and other site features.

No PVOCs or DROs were detected above laboratory detection levels in groundwater samples collected from monitoring wells MW-1 (MW-1D), MW-2 (MW-2D), MW-3 (MW-3D), or MW-4 (MW-4D).

Based on the results of the fourth round of sampling, AESI recommends no corrective action on the part of Serigraph, Inc. AESI recommends that all four wells be sampled again in September 1993 as originally planned, for the final time. If the September 1993 sampling indicates that groundwater at the site is not significantly impacted, AESI will recommend that the site be closed.

The issue of petroleum contamination possibly migrating onto the Serigraph, Inc. site should be fully investigated prior to removal of the four monitoring wells. AESI recommends that Serigraph obtain all relevant information concerning potential releases at the O'Conner site and Jacobus Quick Flash sites and evaluate the potential impact to Serigraph, Inc. property and operations.

If you have any questions concerning the work completed at the site, please contact me at 238-1998.

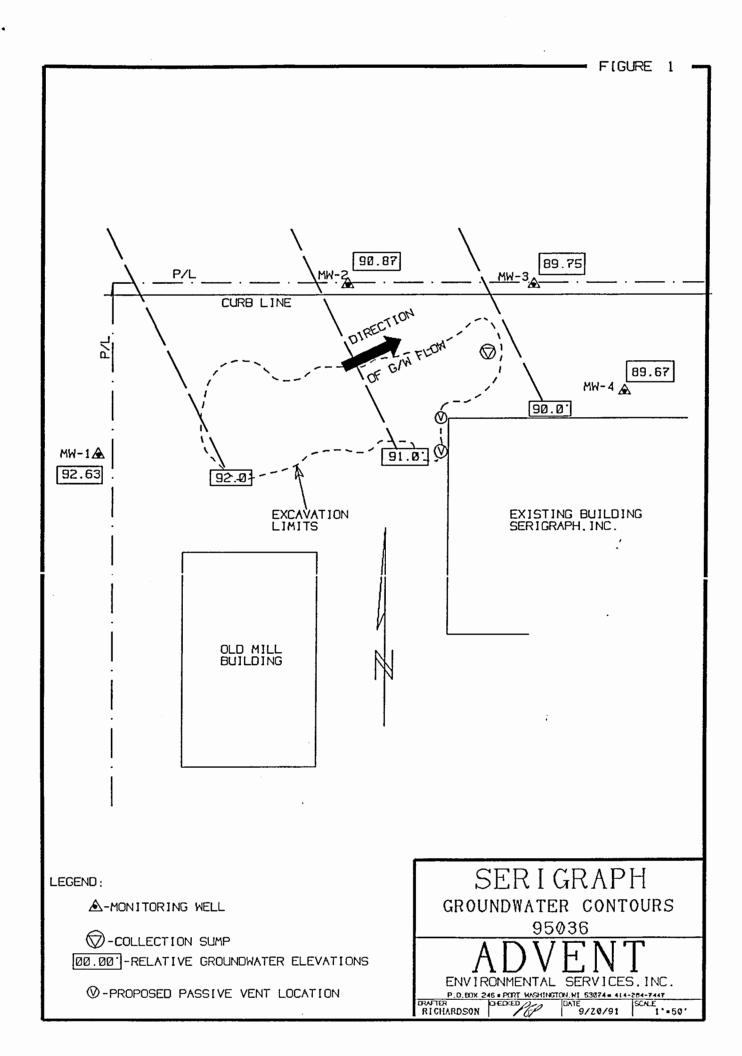
Sincerely,

ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko

Environmental Specialist

cc: Sibyl Lapinski, WDNR, P.O. Box 12436, Milwaukee, WI 53212.
Mr. Russ Haupt, WDILHR, P.O. Box 7969, Madison, WI 53707.





1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Matrix Descript: Analysis Method:

First Sample #:

95036, Serigraph Water

WDNR DRO 303-0023 Sampled: F Received:

Feb 26, 1993 Mar 1, 1993

Extracted: Mar 3, 1993 Analyzed: Mar 7, 1993

Reported: Mar 9, 1993

### **DIESEL RANGE ORGANICS**

Sample Number	Sample Description	High B.P. Hydrocarbons mg/L (ppm)
303-0023	MW-1D	N.D.
303-0024	MW-1D Dup	N.D.
303-0027	MW-2D	N.D.
303-0028	MW-3D	N.D.
303-0029	MW-4D	ND

Detection Limits:	0.10	
ł		

High Boiling Point Hydrocarbons is performed as described in Leaking Underground Storage Tank Analytical Guidance, April 1992 WDNR SW 130 92 REV. Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director 3030023.ADV <1>



1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 95036, Serigraph Sampled: Client Project ID: Feb 26, 1993 Received: Sample Descript: Water: MW-1D Mar 1, 1993 6100 W. Executive, Suite E Analyzed: Mequon, WI 53092 Analysis Method: EPA 5030/8020 Mar 2, 1993 Reported: Mar 9, 1993 Attention: Pete Pavalko Lab Number: 303-0023

## PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit µg/L		Sample Results µg/L
Benzene	0.50	***************************************	N.D.
Ethyl Benzene	0.50		N.D.
Methyl-T-Butyl Ether	5.0	***************************************	N.D.
Toluene	0.50	•••••	N.D.
124 Trimethylbenzene	1.0		N.D.
135 Trimethylbenzene	1.0	••••••	N.D.
Xylene	0.50		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director



1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Sample Descript: Analysis Method: Lab Number: 95036, Serigraph Water: MW-1D Dup EPA 5030/8020 303-0024 Sampled: Feb 26, 1993 Received: Mar 1, 1993 Analyzed: Mar 3, 1993 Reported: Mar 9, 1993

## PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit µg/L	Sample Results µg/L
Benzene	0.50	 N.D.
Ethyl Benzene	0.50	 N.D.
Methyl-T-Butyl Ether	5.0	 N.D.
Toluene	0.50	 N.D.
124 Trimethylbenzene	1.0	 N.D.
135 Trimethylbenzene		 N.D.
Xylene	0.50	 N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director 3030023.ADV <3>



1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services Client Project ID: 95036, Serigraph Sampled: Feb 26, 1993 6100 W. Executive, Suite E Sample Descript: Water: Trip Blank Received: Mar 1, 1993 Mequon, WI 53092 Analysis Method: EPA 5030/8020 Analyzed: Mar 3, 1993 Attention: Pete Pavalko Lab Number: Mar 9, 1993 303-0025 Reported:

## PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit µg/L		Sample Results µg/L
Benzene	0.50	•••••	N.D.
Ethyl Benzene	0.50	***************************************	N.D.
Methyl-T-Butyl Ether	5.0	***************************************	N.D.
Toluene	0.50	***************************************	N.D.
124 Trimethylbenzene	1.0	***************************************	N.D.
135 Trimethylbenzene		***************************************	N.D.
Xylene	0.50	•••••	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director 3030023.ADV <4>



1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services Client Project ID: 95036, Serigraph Sampled: Feb 26, 1993 Received: 6100 W. Executive, Suite E Sample Descript: Water: Field Blank Mar 1, 1993 Mequon, WI 53092 Analysis Method: EPA 5030/8020 Analyzed: Mar 3, 1993 Lab Number: Reported: Attention: Pete Pavalko 303-0026 Mar 9, 1993

### PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit µg/L		Sample Results µg/L
Benzene	0.50	•••••	N.D.
Ethyl Benzene	0.50		N.D.
Methyl-T-Butyl Ether	5.0		N.D.
Toluene	0.50	•••••	N.D.
124 Trimethylbenzene	1.0	• • • • • • • • • • • • • • • • • • • •	N.D.
135 Trimethylbenzene		•••••	N.D.
Xylene	0.50	•••••	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director 3030023.ADV <5>



1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Sample Descript: Analysis Method: Lab Number:

95036, Serigraph Water: MW-2D EPA 5030/8020 303-0027 Sampled: Feb 26, 1993 Received: Mar 1, 1993 Analyzed: Mar 3, 1993 Reported: Mar 9, 1993

### PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit µg/L		Sample Results µg/L
Benzene	0.50		N.D.
Ethyl Benzene	0.50	•••••	N.D.
Methyl-T-Butyl Ether	5.0		N.D.
Toluene	0.50		N.D.
124 Trimethylbenzene	1.0	,	N.D.
135 Trimethylbenzene	1.0		N.D.
Xylene	0.50	***************************************	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**GREAT LAKES ANALYTICAL** 

Kevin W. Keeley Laboratory Director 3030023.ADV <6>



1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Sample Descript: Analysis Method: Lab Number:

95036, Serigraph Water: MW-3D EPA 5030/8020 303-0028 

 Sampled:
 Feb 26, 1993

 Received:
 Mar 1, 1993

 Analyzed:
 Mar 3, 1993

 Reported:
 Mar 9, 1993

#### PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit µg/L		Sample Results µg/L
Benzene	0.50		N.D.
Ethyl Benzene	0.50		N.D.
Methyl-T-Butyl Ether	5.0	•••••	N.D.
Toluene	0.50	••••••	N.D.
124 Trimethylbenzene	1.0	•••••••	N.D.
135 Trimethylbenzene	1.0	***************************************	N.D.
Xylene	0.50	•••••	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICAL

Kevin W. Keeley Laboratory Director 3030023.ADV <7>



1380 Busch Parkway • Buffalo Grove, Illinois 60089 (708) 808-7766 FAX (708) 808-7772

Advent Environmental Services 6100 W. Executive, Suite E Mequon, WI 53092 Attention: Pete Pavalko Client Project ID: Sample Descript: Analysis Method:

Lab Number:

95036, Serigraph Water: MW-4D EPA 5030/8020 303-0029 Sampled: Received: Analyzed: Feb 26, 1993 Mar 1, 1993

Reported:

Mar 3, 1993 Mar 9, 1993

### PETROLEUM VOLATILE ORGANIC COMPOUNDS (EPA 8020)

Analyte	Detection Limit µg/L		Sample Results µg/L
Benzene	0.50		N.D.
Ethyl Benzene	0.50	•••••	N.D.
Methyl-T-Butyl Ether	5.0	•••••	N.D.
Toluene	0.50	***************************************	N.D.
124 Trimethylbenzene	1.0	***************************************	N.D.
135 Trimethylbenzene		***************************************	N.D.
Xylene	0.50		N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

GREAT LAKES ANALYTICA

Kevin W. Keeley Laboratory Director 3030023.ADV <8>

Α	$\mathbf{D}$	$\mathbf{V}$	$\mathbf{E}$	N	$\mathbf{T}$

DUE: 3/9/93

## **CHAIN OF CUSTODY RECORD**

PAGE OF \_\_\_\_\_

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			1					L					City Megven State WI Zip 53092		
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### ADVENT

ENVIRONMENTAL SERVICES, INC.

September 29, 1992

Mr. Tom Ravn Environmental Engineer Serigraph, Inc. 760 Indiana Avenue P.O. Box 438 West Bend, WI 53095

RE: Bi-annual groundwater sampling results for the Serigraph, Inc. site - Plant No. 1, 760 Indiana Avenue, West Bend, Wisconsin, 53095. AESI Project No. 95036.

The purpose of this letter is to document the results of the third round of groundwater monitoring at the Serigraph, Inc. site. The first and second rounds of sampling were completed on September 9, 1991 and March 9, 1992, respectively. The results of the first and second rounds of sampling were documented in reports dated October 9, 1991 and March 31, 1992.

The first round of sampling of the four monitoring wells at the site did not detect the presence of volatile organic compounds (VOCs), gasoline or diesel range organics (GROs or DROs) above laboratory detection levels. None of the total lead levels exceeded the Wisconsin Administrative Code - Chapter 140 - Preventive Action Limit (PAL) for lead.

The second round of sampling detected low levels of 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and o-xylene in monitoring well MW-2.

On September 11, 1992, AESI completed the third round of groundwater sampling at the site. All wells were pumped dry prior to sampling. Approximately 15 gallons were removed from each well to assure the collection of a representative sample. When each well had recharged following the final purge cycle, a water sample was collected using a disposable polyethylene bailer. The contents of each bailer were poured into two 40 ml vials and one 1 liter amber glass jar. Each sample was preserved with HCL. All samples were packed in a cooler and transported to the laboratory with the chain of custody record.

Groundwater samples from each well were analyzed for petroleum volatile organic compounds (PVOCs) and DROs. Sample methodology is presented on the laboratory data sheets. The original laboratory data and chain of custody record are attached. Refer to Figure 1 for a site location map indicating the locations of monitoring wells and other site features.

No PVOCs or DROs were detected above laboratory detection levels in groundwater samples collected from monitoring wells MW-2 (MW-2C), MW-3 (MW-3C), or MW-4 (MW-4C).

A DRO level of 0.10 mg/l was detected in sample MW-1C collected from monitoring well MW-1. No PVOCs were detected above the laboratory detection level in sample MW-1C. DROs have not been identified above detection levels in MW-1 prior to this sampling. MW-1 is considered the up-gradient well at this site.

Immediately west (hydraulically upgradient) of MW-1 is an O'Conner bulk petroleum facility. Extensive monitoring of the O'Conner site is on-going. It appears likely that a release from the O'Conner site, or possibly Jacobus Quick Flash site that is located approximately 500 feet south of MW-1, could be migrating via the groundwater onto Serigraph, Inc. property and to the location of MW-1. Ms. Sibyl Lapinski. WDNR Project Manager, was contacted on September 29, 1992 and advised of the situation. She stated that she would contact O'Conner Oil and attempt to get an update of the investigation at that site.

Based on the results of the third round of sampling, AESI recommends no corrective action on the part of Serigraph, Inc. AESI does recommend that O'Conner Oil take steps necessary to limit the potential impact to the Serigraph, Inc. site. It appears that the lack of remedial response at the O'Conner site has allowed the migration of contaminates from its source. AESI recommends that all four wells be sampled again in March 1993 to monitor PVOC and DRO levels as originally planned. AESI also recommends that Serigraph obtain all relevant information concerning potential releases at the O'Conner site and Jacobus Quick Flash sites and evaluate the potential impact to Serigraph, Inc. property and operations.

September 29, 1992

Page 3

If you have any questions concerning the work completed at the site, please contact me at 238-1998.

Sincerely,

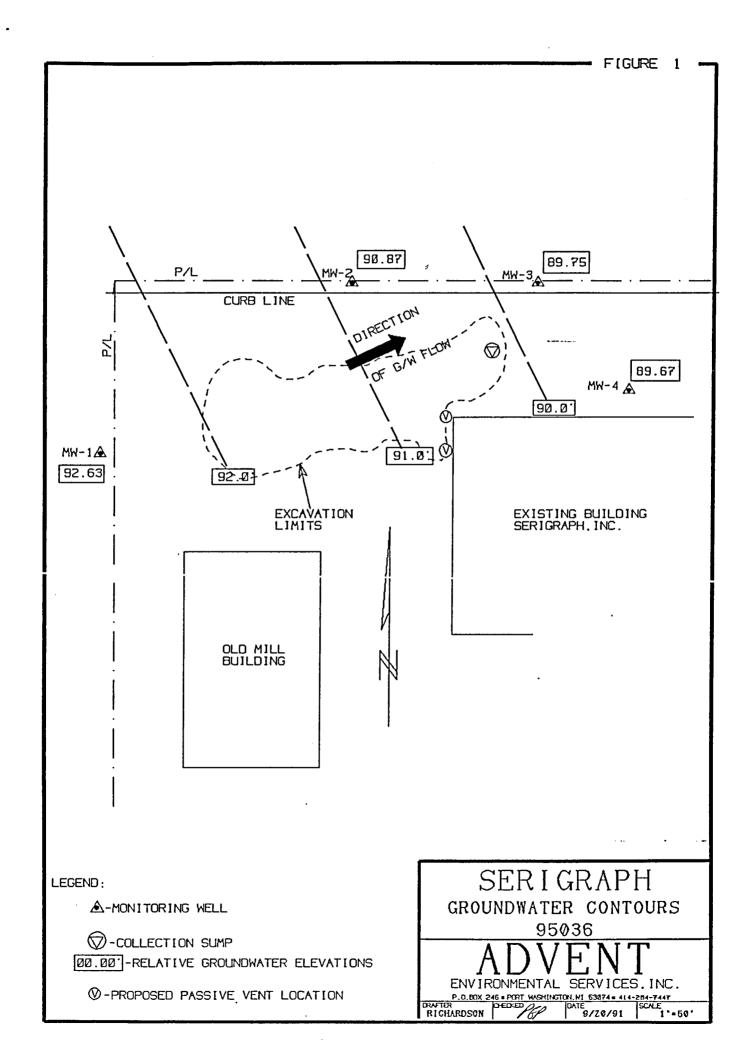
ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko

Environmental Specialist

cc: Sibyl Lapinski, WDNR, P.O. Box 12436, Milwaukee, WI 53212.

Mr. Russ Haupt, WDILHR, P.O. Box 7969, Madison, WI 53707.



#### Precision Analytical Lab, Inc 205 West Galena Milwaukee, WI 53212

Phone: (414) 272-5222

Advent Environmental
6100 West Executive Dr. Ste.E

Mequon, WI 53092

Attn: P. Pavalko Invoice Number:

Order #: 92-09-134 Date: 09/23/92 15:50

Work ID: 95036

Date Received: 09/12/92 Date Completed: 09/23/92 Client Code: ADVENT

#### SAMPLE IDENTIFICATION

Sample	Sample	Sample	Sample
Number	Description	Number	<u>Description</u>
01	MW-1C	04	MW-3C
02	MW-2C	05	MW-4C
03	MW-2C-DUP		

Laboratory ID Number (Wisconsin DNR): 241369260

Certified By Jeff Bushner

Sample: 01A MW-1C	col	lected: 09/11/92			
Test_Description	Result	<u>Limit</u>	<u>Units</u>	Analyzed	By
Mod. DRO (WDNR)	0.10		mg/l	09/18/92	SEL
PVOC Water, (WDNR) 8020					
Benzene	< 1.0		ug/l	09/18/92	LJS
Ethylbenzene	< 1.0		ug/l	09/18/92	LJS
Methyl-t-butylether	< 1.0	*	ug/l	09/18/92	LJS
Toluene	< 1.0		ug/l	09/18/92	LJS
1,2,4-Trimethylbenzene	< 1.0		ug/l	09/18/92	LJS
1,3,5-Trimethylbenzene	< 1.0		ug/l	09/18/92	LJS
Total Xylenes	< 1.0		ug/l	09/18/92	LJS
Sample: 02A MW-2C	Coll	lected: 09/11/92			
Test Description	Result	<u>Limit</u>	<u>Units</u>	Analyzed	By
Mod. DRO (WDNR)	< 0.10		mg/l	09/18/92	SEL
PVOC Water, (WDNR) 8020					
Benzene	< 1.0		ug/l	09/18/92	LJS
Ethylbenzene	< 1.0		ug/l	09/18/92	LJS
Methyl-t-butylether	< 1.0		ug/l	09/18/92	LJS
Toluene	< 1.0		ug/l	09/18/92	LJS
1,2,4-Trimethylbenzene	< 1.0		ug/l	09/18/92	LJS
1,3,5-Trimethylbenzene	< 1.0		ug/l	09/18/92	LJS
Total Xylenes	< 1.0		ug/l	09/18/92	LJS
Sample: 03A MW-2C-DUP	Coll	lected: 09/11/92			
Test Description PVOC Water, (WDNR) 8020	Result	<u>Limit</u>	<u>Units</u>	Analyzed	<u>By</u>
Benzene	< 1.0		ug/l	09/18/92	LJS
Ethylbenzene	< 1.0		ug/1	• •	LJS
Methyl-t-butylether	< 1.0		ug/l		LJS
Toluene	< 1.0		ug/1		LJS
1,2,4-Trimethylbenzene	< 1.0		ug/l		LJS
1,3,5-Trimethylbenzene	< 1.0		ug/1		LJS
Total Xylenes	< 1.0		ug/l	• • •	LJS
local Aylenes	11.0		ug/ I	03/18/32	БОЗ
Sample: 04A MW-3C	Coll	ected: 09/11/92			
Test Description	Result	Limit	Units	Analyzed	By
Mod. DRO (WDNR)	< 0.10	<del></del>	mg/1	09/18/92	SEL
,			٥, -	, -,	

Test Description	Result	<u>Limit</u>	<u>Units</u>	Analyzed	By
PVOC Water, (WDNR) 8020					
Benzene	< 1.0		ug/l	09/18/92	LJS
Ethylbenzene	< 1.0		ug/l	09/18/92	LJS
Methyl-t-butylether	< 1.0		ug/l	09/18/92	LJS
Toluene	< 1.0		ug/l	09/18/92	LJS
1,2,4-Trimethylbenzene	< 1.0		ug/l	09/18/92	LJS
1,3,5-Trimethylbenzene	< 1.0	*	ug/l	09/18/92	LJS
Total Xylenes	< 1.0	·	ug/l	09/18/92	LJS
Garrata OCB NEL AG	0-11-				
Sample: 05A MW-4C	COITE	ected: 09/11/92			
Test Description	Result	<u>Limit</u>	<u>Units</u>	Analyzed	By
Mod. DRO (WDNR)	< 0.10		mg/l	09/18/92	SEL
PVOC Water, (WDNR) 8020					
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# ADVENT

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### ADVENT

ENVIRONMENTAL SERVICES, INC.

March 31, 1992

Mr. Tom Ravn Environmental Engineer Serigraph, Inc. 760 Indiana Avenue P.O. Box 438 West Bend, WI 53095



RE: Bi-annual groundwater sampling results for the Serigraph, Inc. site - Plant No. 1, 760 Indiana Avenue, West Bend, Wisconsin, 53095. AESI Project No. 95036.

The purpose of this letter is to document the results of the second round of groundwater monitoring at the Serigraph, Inc. site. The first round of sampling was completed on September 9, 1991. The results of the first round of sampling were documented in a report dated October 9, 1991.

The first round of sampling of the four monitoring wells at the site did not detect the presence of volatile organic compounds (VOCs), gasoline or diesel range organics (GROs or DROs) above laboratory detection levels. None of the total lead levels exceeded the Wisconsin Administrative Code - Chapter 140 - Preventive Action Limit (PAL) for lead.

On March 9, 1992, AESI completed the second round of groundwater sampling at the site. All wells were purged dry prior to sampling. Approximately 3 well volumes were removed from each well to assure the collection of a representative sample. When each well had recharged following the final purge cycle, a water sample was collected using a disposable polyethylene bailer. The contents of each bailer were poured into three 40 ml vials and one 1 liter amber glass jar. Each sample collected in a 40 ml vial was preserved with 12 drops of 50% HCL. All samples were packed in a cooler and transported to the laboratory with the chain of custody record.

Groundwater samples from each well were analyzed for petroleum volatile organic compounds (PVOCs) and DROs. Sample methodology is presented on the laboratory data sheets. The original laboratory data and chain of custody record are attached. Refer to Figure 1 for a site location map indicating the locations of monitoring wells and other site features.

No PVOCs or DROs were detected above laboratory detection levels in groundwater samples collected from monitoring wells MW-1 (MW-1B), MW-3 (MW-3B), or MW-4 (MW-4B).

1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and o-xylene were detected in the sample collected from well MW-2 (MW-2B) at concentrations of 1.9  $\mu$ g/l (ppb), 1.0  $\mu$ g/l, and 9.46  $\mu$ g/l, respectively. The PAL for total xylene is 124  $\mu$ g/l. No PALs for 1,2,4- or 1,3,5-trimethylbenzene have been established.

Based on the low PVOC levels detected during the second round of sampling, AESI recommends no corrective action at this time. AESI does recommend that the wells be sampled again in September 1992 to monitor PVOC and DRO levels.

If you have any questions concerning the work completed at the site, please contact me.

Sincerely,

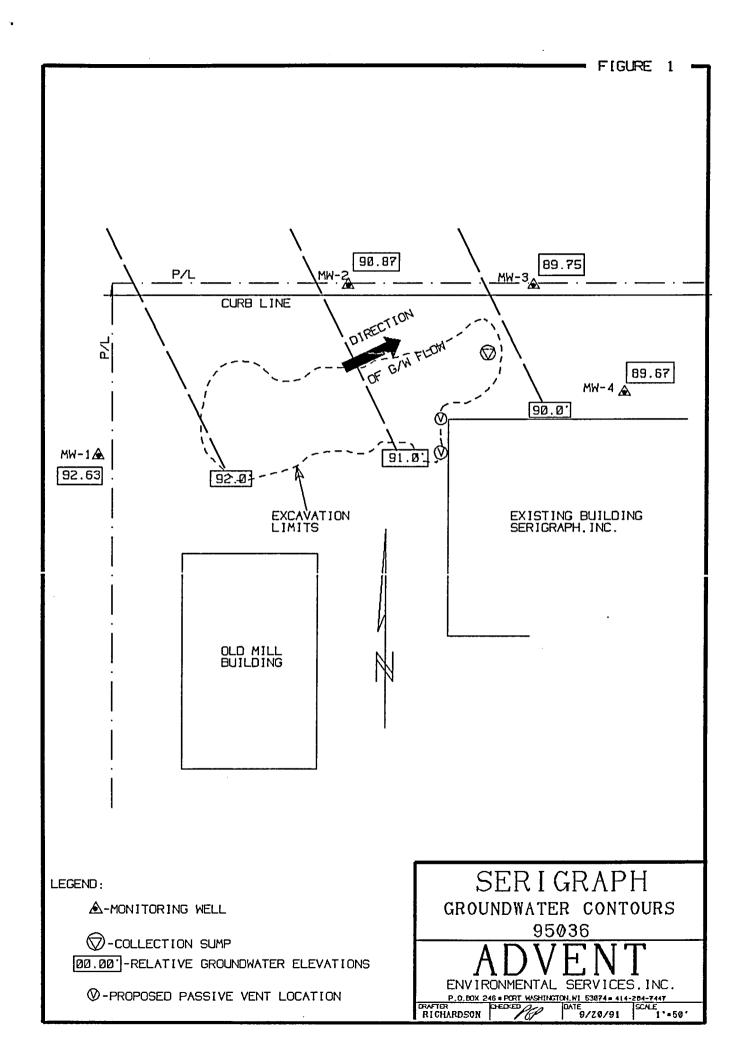
ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko

**Environmental Specialist** 

cc: Lust Coordinator - Washington County, WDNR, P.O. Box 12436, Milwaukee, WI 53212.

Mr. Russ Haupt, WDILHR, P.O. Box 7969, Madison, WI 53707.



# AQUA-TECHING.

140 South Park Street Port Washington, Wisconsin 53074

March 31, 1992

Mr. Peter Pavalko Advent Environmental Services, Inc. P.O. Box 246 Port Washington, WI 53074

sample Description: Serigraph

Lab No. W4938A-D

WO# 95036

Date Collected: 03-09-92

Date Received: 03-09-92

Parameter	MW-1B	MW-2B	MW-3B	MW-4B	Detect.	Date
	W4938A	W4938B	W4938C	W4938D	<u>Limit</u>	<u>Anal.</u>
DRO (ppb)	ИD	ND	ND	ND	100.	03-18-92

ND = Not Detected DRO analyzed by methods from California Luft Manual. Samples received in good condition, at 1.7°C. Standards obtained from local vendor. All analyses performed in house.

Bruce Ten Haken

Laboratory Supervisor

State Cert. No. 246049430

# AQUA-TECHING

140 South Park Street Port Washington, Wisconsin 53074

March 31, 1992

Mr. Peter Pavalko Advent Environmental Services, Inc. P.O. Box 246 Port Washington, WI 53074

Sample Description: Serigraph

Lab No. W4938A-D

WO# 95036

Date Collected: 03-09-92 Date Analyzed: 03-20-92 Date Received: 03-09-92

<u>Parameter</u>	MW-1B W4938A	MW-2B W4938B	MW-3B W4938C	MW-4B W4938D	Detect. <u>Limit</u>
Benzene	ND	ND	ND	ND	1.0 ppb
Ethylbenzene	ND	ND	ND	ND	1.0 ppb
Methyl-t-butyl ether	ND	ND	ND	ND	1.0 ppb
Toluene	ND	ND	ND	ND	1.0 ppb
1,2,4-Trimethylbenzene	ND	1.9	ND	ND	1.0 ppb
1,3,5-Trimethylbenzene	ND	1.0	ND	ND	1.0 ppb
m & p-Xylene	ND	ND	ND	ND	2.0 ppb
o-Xylene	ND	9.46	ND	ND	1.0 ppb

Units = ppb ND = Not Detected PVOC's analyzed by Method 8020 from SW-846. samples received in good condition, at 1.7°C. Results based on dry weight. Standards obtained from Macro Scientific and Supelco. All analyses performed in house.

Bruce Ten Haken

Laboratory Supervisor State Cert. No. 246049430



201 E. Washington Avenue P.O. Box 7969 Madison, Wisconsin 53707

# State of Wisconsin Department of Industry, Labor and Human Relations

March 10. 1992

Mr. John B. Torinus JR Serigraph, Inc 760 Indiana Avenue West Bend, WI 53095

RE: PECFA Reimbursement: (AST), Serigraph, Inc, 760 Indiana Avenue, West Bend, WI 53095

Thank you for applying for reimbursement under the Environmental Cleanup Fund Program. Enclosed please find a check in the amount of \$169,319.68. This amount represents payment of eligible costs reimbursed under the PECFA program.

The reimbursement was calculated as follows:

Amount of claim	\$	177,594.68
Additional amount eligible	\$	.00
Amount not eligible	\$ (	( 7 <b>7</b> 5.00)
Deductible	\$ (	(5,000.00)
5% Deductible for costs paid	d	
after 8-15-1991.	\$ (	( 2,500.00)
Sub Total	\$	169,319.68
Percentage	\$	100%
Total PECFA Payment	\$	169,319.68
Available Balance Remaining	\$	25,680.32

The total non-eligible costs are as follows:

1.) \$775.00 was deducted from this claim for the amount which was charged for vehicle charges, which were in addition to mobilization and mileage charges.

If there would be any further questions regarding these matters please free to contact me.

Sincerely,

BERNARD L. COXHEAD PECFA Grant Reviewer

Bureau of Petroleum Inspection

and Fire Protection

(608) 267-1385

cc: Advent Environmental-Peter E. Pavalko

Thomas Ravn-Serigraph, Inc Jeffery Fischer-WDNR - SED Miles Mickelson-DILHR-PECFA

## ADVENT

ENVIRONMENTAL SERVICES, INC.

December 16, 1991

Mr. Tom Ravn, Environmental Engineer Serigraph, Inc. 760 Indiana Avenue P.O. Box 438 West Bend, WI 53095

Dear Mr. Ravn:

RE: Additional soil remediation - passive vent installation - at the Serigraph, Inc. - Plant No. 1., 760 Indiana Avenue, West Bend, Wisconsin, 53095. AESI Project No. 95036.

The purpose of this letter is to provide documentation of the installation of two passive soil vents at the above referenced site. AESI proposed the installation of these vents in a letter dated October 9, 1991. Ms. Jennifer King reviewed and approved the plan in November 1991 (see WDNR letter dated November 13, 1991).

Based on your September 11, 1991 meeting with MR. Jeff Fischer, WDNR, AESI proposed the installation of two passive soil vents near the northwest corner of the facility. Soil samples collected from the 1.0 to 8.0 foot depth interval against the foundation of the building produced PID readings of 8 to 22 ppm. Laboratory analysis of a sample collected from this area indicated a DRO level of 6,440 mg/kg.

Two passive vents were installed at the site on December 3, 1991. The locations of the vents are depicted on Figure 1. Soil encountered during the installation of the vents had a moderate petroleum odor. The purpose of the vents is to provide a conduit for air infiltration to the subsurface soils and enhance microbial activity and increase the bio-degradation rate of petroleum hydrocarbons.

Figure 2 depicts the construction specifications for the passive vents installed at the site. The vents were installed by Wisconsin Soil Testing, Inc., Butler, Wisconsin.

AESI recommended that the groundwater be monitored through sampling on a bi-annual basis for no less than two years from the initial sampling date. Based on the initial groundwater sampling results and the nature of the remaining contaminated soil at the site (diesel fuel), AESI recommended that all subsequent samples be analyzed for DROs and PVOCs. The next (2<sup>nd</sup>) groundwater sampling round will be completed in March of 1992.

Mr. Tom Ravn Page 2 December 16, 1991

Copies of this letter and all attachments have been submitted by AESI to:

Ms Jennifer King (LUST Coordinator - Washington County)
Wisconsin DNR, Southeast District
2300 N. Dr. Martin Luther King, Jr. Dr.
P.O. Box 12436
Milwaukee, WI 53212

Wisconsin Department of Industry, Labor, and Human Relations Bureau of Petroleum Inspection and Fire Protection P.O. Box 7969 Madison, WI 53707

If you have any questions concerning these recommendations, please contact me.

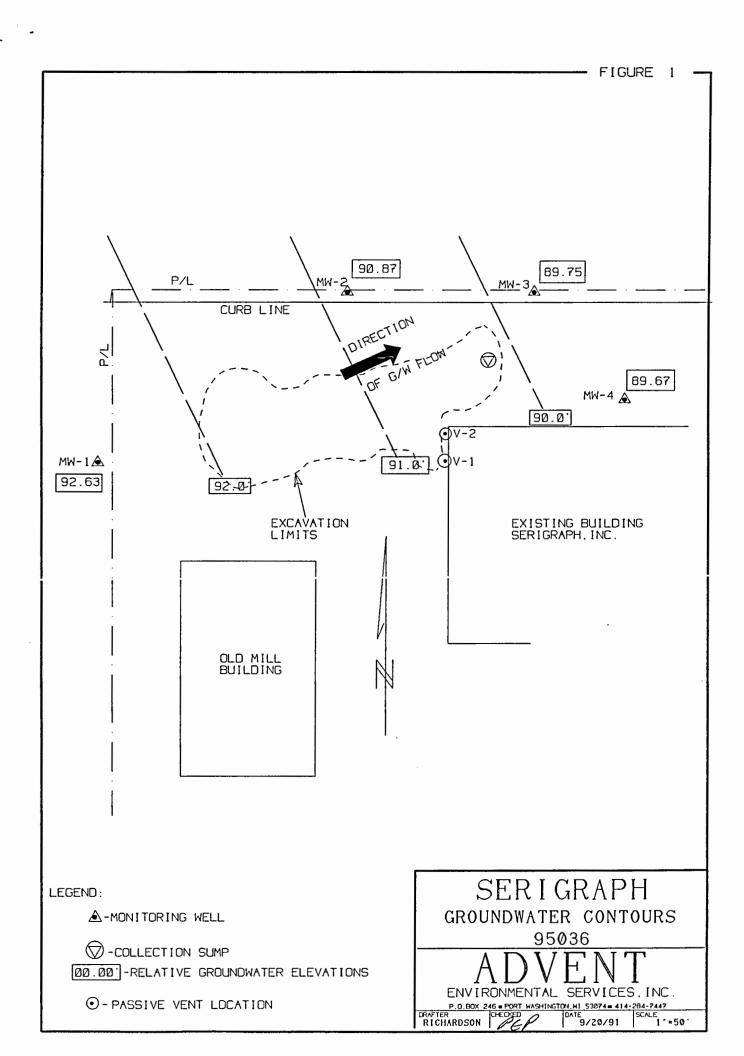
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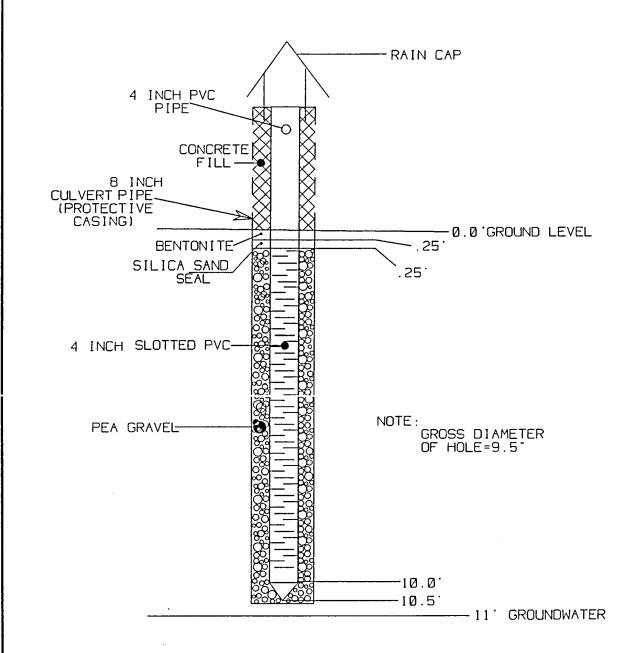
ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko

**Environmental Specialist** 

PEP/wp/AV95036.vnt





SERIGRAPH
PASSIVE VENTS V-1 & V-2
CONSTRUCTION REPORT

ADVENT

ENVIRONMENTAL SERVICES, INC.

P.O.BOX 246 PORT MASHINGTON.HI 53074 14-284-7447

DRAFTER CHECKED DATE SCALE

RICHARDSON PC 9/18/91 1-2.7

## ADVENT

ENVIRONMENTAL SERVICES, INC.

November 14, 1991

Ms. Jennifer King Wisconsin Department of Natural Resources 2300 N. Dr. Martin Luther King Jr. Dr. P.O. Box 12436 Milwaukee, WI 53212

Dear Ms. King:

RE: Completion and submittal of Forms 4400-122, 4400-113A, and 4400-113B for the Serigraph, Inc. site, West Bend, WI.

Enclosed find WDNR Forms referenced above for the four monitoring wells at the Serigraph, Inc. site.

Thank you for approving the additional soil remediation plan and groundwater monitoring for the Serigraph site presented to the WDNR in our letter dated October 9, 1991.

The passive soil vents will be installed in early December. The groundwater wells will be sampled again in March of 1992. The results of this sampling will be submitted to the WDNR within two weeks of receiving the laboratory results.

If you have any additional comments or questions, please call me.

Sincerely,

ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko

Environmental Specialist

cc: Tom Rayn

Serigraph, Inc. 760 Indiana Ave.

West Bend, Wisconsin 53095

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I here	eby ce	ertlify	that	the information on	this form is t	rue a	nd co	rrect	to the	a hes	• of n	ny kn	owled				L	
Signat	ure /	7	_	Pavally		a	C:	4							RVIC		·	
	V	<u>/                                    </u>	$\sim$	· 1 www			/	100	FN1	. C/	VVIK	DNME	VTAL	<u>. 26</u>	KVICI	- ردا	LNC.	

State of Wisconsin Department of Natural Resources  Route to: Solid Waste  Haz. Waste  WEnv. Response & Repair  Underground Ta	Form 4400 112 A D 4 00
Facility/Project Name   Local Grid Location of Well	Well Name
SERIGRAPH INC.	ft. 🖁 🖁 📈 💮 /\W-/
Facility License, Permit or Monitoring Number Grid Origin Location  Lat Long	Wis, Unique Well Number DNR Well Number
Type of Well Water Table Observation Well 11 St. Plane ft. N	Date Well Installed
Piezometer	·n. E.   0 9 / 0 6 / 9 /
Distance Well Is From Waste/Source Boundary  SE 1/4 of SW 1/4 of Sec. 13	
$\approx 30^{-1/4 \text{ of } \frac{3L}{2M}} \frac{1/4 \text{ of Sec. } \frac{3L}{2M}}{\text{Location of Well Relative to W}}$	
Is Well A Point of Enforcement Std. Application? u Upgradient s	T Side-gradient
Yes No d Downgradient n	Not Known P. Pavalko-AUVENT ENVIR. SER. INC.
A. Protective pipe, top elevation 2.5 Oft. MSL	1. Cap and lock?
B. Well casing, top elevation 2 . 4 0 ft. MSL	2. Protective cover pipe: a. Inside diameter:   4. 0 in.
C. Land surface elevation O O ft. MSL	b. Length:
D. Surface seal, bottom ft. MSL or _1.0 ft.	c. Material: Steel <b>1</b> 04
12. USCS classification of soil near screen:	d. Additional protection?
	If yes, describe:
SM SC ML MH CL CH CH	D . : E 20
Bedrock □	3. Surface seal: Concrete 01
13. Sieve analysis attached? ☐ Yes ■ No	\ Other □ //////////
14. Drilling method used: Rotary 50	4. Material between well casing and protective pipe:
Hollow Stem Auger 41	Bentonite 🗖 30
Other 🗖 🕮 🔛	Annular space seal 🔲 💹
1. Thursday 1. West F102 1. F101	FLINT SAND Other
15. Drilling fluid used: Water 0 0 2 Air 0 0 1 Drilling Mud 0 0 3 None 9 9 9	5. Annular space seal: a. Granular Bentonite 33
Driming Mod Li 03 None Li 99	bLbs/gal mud weight Bentonite-sand slurry   35
16. Drilling additives used? ☐ Yes ■ No	cLbs/gal mud weight Bentonite slurry 2 3 1
	d % BentoniteBentonite-cement grout \( \square 50 \)
Describe	eFt <sup>3</sup> volume added for any of the above
17. Source of water (attach analysis):	f. How installed: Tremie 0 1  Tremie pumped 0 02
	Gravity <b>1</b> 08
	6. Bentonite seal:  a. Bentonite granules 33
E. Bentonite seal, top ft. MSL or1.0 ft.	b. $\square 1/4$ in. $\square 3/8$ in. $\square 1/2$ in. Bentonite pellets $\square 32$
K K K K K K K K K K K K K K K K K K K	c. BENTONITE CRUMBLE Other
F. Fine sand, top ft. MSL or 4 .0 ft.  G. Filter pack, top ft. MSL or 4 .5 ft.	7. Fine sand material: Manufacturer, product name & mesh size
	a Silica sano
G. Filter pack, top ft. MSL or 4.5 ft.	b. Volume addedft <sup>3</sup>
	8. Filter pack material: Manufacturer, product name and mesh size
H. Screen joint, top ft. MSL or 5 .0 ft.	a RED FLINT SAND b. Volume addedft <sup>3</sup>
I. Well bottom ft. MSL or 155 ft.	9. Well casing: Flush threaded PVC schedule 40 23
	Flush threaded PVC schedule 80   24
J. Filter pack, bottom ft. MSL or _15 5 ft.	Other □
	10. Screen material: 2" PVC
K. Borehole, bottom ft. MSL or _ 1 5 . 5 ft.	a. Screen type: Factory cut 📑 11
1	Continuous slot   0 1
L. Borehole, diameter _ 9.25 in. below ground Surpace	Other 🗖 🧱
taran da antara da antara da antara da antara da antara da antara da antara da antara da antara da antara da a	b. Manufacturer
M. O.D. well casing _ Z O _ in.	c. Slot size: 0. 0 1 0 in. d. Slotted length: 1 0 0 1 to in.
N. I.D. well casing _ / [8] _ in.	11. Backfill material (below filter pack): None 🕠 14
II. A.D. WOIL CASHING III.	Other
I hereby certify that the information on this form is true and correct	
Signature (Signature (Firm 1) 1/2 1	

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.

Firm:

INC.

Env. Resp	onse &	k Rep	air 🔲 Unde	rground Tanks Ot	ner 🔲			
Facility/Project Name			ounty Name		Well Name			
SERTGRAPH, INC.			WASHING	KTON	MW-	/		
Facility License, Permit or Monitoring Number	r	C	ounty Code	Wis, Unique Well N	umber DNR W	ell Number		
1. Can this well be purged dry?		Yes	No No	11. Depth to Water	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 and pumped surged with block, bailed and pumped compressed air bailed only pumped only	H0000000	41 61 42 62 70 20 10		(from top of well casing)  Date  Time  12. Sediment in well bottom	b. $\frac{O}{m} \frac{9}{m} \frac{1}{d} \frac{O}{d} \frac{9}{d} \frac{1}{y} \frac{1}{y}$ c. $\underline{g} : \underline{o} \ \underline{o} \ \underline{g} \ \underline{p}.m.$	9:30 □ a.m.		
pumped slowly Other		50		13. Water clarity	Clear 10 Turbid 15	Clear ■ 20 Turbid □ 25		
3. Time spent developing well	_2	.9.0	min.		(Describe)	(Describe)		
4. Depth of well (from top of well casisng)		<u>8</u> .	<u>0</u> ft.					
5. Inside diameter of well	1	8	<u>0</u> in.					
Volume of water in filter pack and well casing  7. Volume of water removed from well			<u>3</u> gal. <u>0</u> gal.		ds were used and well is a	1		
8. Volume of water added (if any)		<u>o</u> .	<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	1 .				
16. Additional comments on development:	-			-				
Well developed by: Person's Name and Firm				I hereby certify that of my knowledge.	the above information is t	rue and correct to the best		

Print Initials:

Firm:

ADVENT ENVIR. SERVICES, INC.

Route to: Solid Waste Haz. Waste Wastewater

The state of the s	id Waste  Haz. Waste   & Repair  Underground		MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 4-90
Facility/Project Name	Local Grid Location of We	11	Well Name *
SERIGRAPH INC.	ft. 🗆 N.	ft. □ E.	MW-2
Facility License, Permit or Monitoring Number	Grid Origin Location		Wis. Unique Well Number DNR Well Number
-	Lat L	ong or	
Type of Well Water Table Observation Well 11	St. Plane ft	-	Date Well Installed
Piezometer 12	Section Location of Waste/		$\frac{O}{m} \frac{9}{m} \frac{1}{d} \frac{6}{d} \frac{1}{v} \frac{9}{v} \frac{1}{v}$
Distance Well Is From Waste/Source Boundary	Section Location of Waster	James 11 am E.	Well Installed By: (Person's Name and Firm)
≈ 30° ft.	SE 1/4 of Sw 1/4 of Sec.	13, T. // N, R. /1 W.	MATT-WIS. SOIL TESTING
Is Well A Point of Enforcement Std. Application?	Location of Well Relative t u D Upgradient s	o Waste/Source *	
Yes D No	d Downgradient n	_	P. Pavalko-ADVENT ENVIR. SER. INC.
A. Protective pipe, top elevation2.50f		1. Cap and lock?	No Yes □ No
2 406		2. Protective cov	ver pipe:
B. Well casing, top elevation 2 . 4 o f	1. MOL ———————————————————————————————————	a. Inside diame	eter: _ <u>4</u> . <u>0</u> in.
C. Land surface elevation 0 .0 f	t. MSL	b. Length:	_ <b>5</b> . <u>0</u> ft.
		c. Material:	Steel 📕 04
D. Surface seal, bottom ft. MSL or _ =	<u>L.O ft.</u> \		Other 🛚
12. USCS classification of soil near screen:		d. Additional	protection?
	SP 🔳 -	If yes, desc	
SM SC ML MH CL C	сн 🗖 📗 👢	$H \setminus I$	Bentonite □ 30
Bedrock □		3. Surface seal:	Concrete 01
13. Sieve analysis attached?	vo   💹 🖟	<b>X</b>	Other 🗆
14. Drilling method used: Rotary   S	50	4. Material betwe	een well casing and protective pipe:
Hollow Stem Auger	1 1001 10	***************************************	Bentonite  30
Other 🗆		₩	Annular space seal
		E,	
15. Drilling fluid used: Water □ 02 Air □	01   👹 🛭	w <u> </u>	( U) De
Drilling Mud 03 None		5. Annular space	
16. Drilling additives used? ☐ Yes ■ N	vo   ∭		al mud weight Bentonite slurry   31
			ntonite Bentonite-cement grout  50
Describe	🐰 🖁	XX	Ft 3 volume added for any of the above
17 Source of water (attach analysis):		f. How install	
	i 🕍 🛭	XX	Tremie pumped
			Gravity 🔳 08
	1.	6. Bentonite seal	•
E. Bentonite seal, top ft. MSL or	±.5 ft~	b. □1/4 in.	□3/8 in. □ 1/2 in. Bentonite pellets □ 32
			NITE CRUMBIE Other
F. Fine sand, top ft. MSL or	7.0 m \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		erial: Manufacturer, product name & mesh size
		:y /	A SAND
G. Filter pack, top ft. MSL or	4.5 m C / [3]	b. Volume ad	
	en . \		sterial: Manufacturer, product name and mesh size
H. Screen joint, top ft. MSL or	2 0 m	a RED FLU	
6 NGT .		b. Volume ad	
I. Well bottom ft. MSL or _ l	5.5 二/	9. Well casing:	Flush threaded PVC schedule 40 23
		<u> </u>	Flush threaded PVC schedule 80   24
J. Filter pack, bottom ft. MSL or _ 1	5.5 m / 海		Other 🛚 📗
		10. Screen materi	al: <u>2" PVC</u>
K. Borehole, bottom ft. MSL or _ 1	∑.5 ft.	a. Screen typ	
		<b>3</b>	Continuous slot  01
L. Borehole, diameter _ 7.25 in.		<u>م</u>	Other 🗖 💹
DE	low grown surpace	b. Manufactur	
M. O.D. well casingZ_O_ in.		c. Slot size:	0. <u>O</u> 1 <u>0</u> in.
•		d. Slotted len	gth: 10.0 ft.
N. I.D. well casing		11. Backfill mater	ial (below filter pack): None 🖪 14
			Other 📙 🜅
I hereby certify that the information on this	form is true and corr	ect to the best of my l	knowledge.
Signature (1)	Firm 4 ) 1/C 1/		

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.

•	onse & Repair 🔲 Und	erground Tanks   Oth		
Facility/Project Name	County Name		Well Name	<u> </u>
SERIGRAPH, INC.	WASHIN		MW-	
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well N	umber DNR We	ll Number
1. Can this well be purged dry?	☐ Yes ■ No	11. Depth to Water	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 and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other  3. Time spent developing well	# 41   61   42   62   70   20   10   51   50   ### ### ### ### #### ###############	(from top of well casing)  Date  Time  12. Sediment in well bottom  13. Water clarity		$\frac{0}{m} \frac{9}{m} \frac{1}{0} \frac{9}{0} \frac{1}{0} \frac{9}{1} \frac{1}{y}$ $\frac{1}{1} : 00 \stackrel{\square}{\square} a.m.$ p.m.
<ul><li>4. Depth of well (from top of well casisng)</li><li>5. Inside diameter of well</li></ul>				
Nolume of water in filter pack and well casing	_ = 7.3 gal.			
7. Volume of water removed from well	<u>25.0</u> gal.		ls were used and well is a	1
8. Volume of water added (if any)	O.Ogal.	14. Total suspended solids	mg/l	mg/l
9. Source of water added  10. Analysis performed on water added?		15. COD	mg/l	mg/i
(If yes, attach results)	□ Yes □ No			
16. Additional comments on development:				
			·	

Route to: Solid Waste Haz. Waste Wastewater

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.

Signature:

Signature:

Print Initials: PEP

Firm: ADVENT ENVIRONMENTAL SERVICES, Firm: ADVENT ENVIR. SERVICES, INC.

D 17 17 17 17 17 17 17 17 17 17 17 17 17	id Waste 🔲 Haz. Waste 🛭 & Repair 🗖 Undergro	☐ Wastewater ☐  und Tanks ☐ Other ☐ —	MONITORING V Form 4400-113A		ICTION ev. 4-90
Facility/Project Name	Local Grid Location of V	Vell	Well Name	-	*
SERIGRAPH, INC.	tr. 🗀 S	ft.   H	ž Mu	1-3	
1	Grid Origin Location  Lat	Long	Wis. Unique Well Num	ber DNR Well I	Number
Type of Well Water Table Observation Well ■ 11 Piezometer □ 12	St. Plane Section Location of Was		E. Date Well Installed Om	910619	<u>/</u>
Distance Well Is From Waste/Source Boundary	CF 1/A of Styl 1/A of Sa	e. <u>/3</u> ,T. <u>//</u> N, R. <u>/1</u>		rson's Name and I	firm)
≈ 30° ft.	Location of Well Relativ	e to Waste/Source	MATT- WIS. Soil	LTESTING	
Is Well A Point of Enforcement Std. Application?	u D Upgradient	s  Sidegradient	•		
Yes 🔲 No	d 🖬 Downgradient	n 🔲 Not Known	P. Pavalko-AUVEN	17 ENVIR. SER	2. INC.
A. Protective pipe, top elevation 2.5 of	i. DISL	1. Cap and lo		Ma Yes [	] No
B. Well casing, top elevation 2 . 4 0 f	i. MSL	2. Protective a. Inside di	• •	ı	<u>. O</u> in.
J. 1	- 11	b. Length:			7.0 ft. ∑.0 ft.
C. Land surface elevation O f		c. Material		Steel <b>I</b>	2. <u>0</u> 16 ■ 04
D. Surface seal, bottom ft. MSL or _=	L.O.U.			Other [	
12. USCS classification of soil near screen:		d. Addition	nal protection?	☐ Yes [	□ No
	SP	_ If yes, d	escribe:		
SM SC ML MH CL C	-H -	3. Surface sea	d:	Bentonite [	_
13. Sieve analysis attached?  Yes	L			Concrete	
	1 1883	Material be	etween well casing and prote	Other [	
14. Drilling method used: Rotary Hollow Stem Auger	1 400	4. Material of	tween wen casing and prote	Bentonite	30
Other 🗆			An	nular space seal	
	·····		FLINT SAND	Other	-
15. Drilling fluid used: Water □ 02 Air □		5. Annular sp		HiPs inular Bentonite	33
Drilling Mud 🗖 03 None 🔳	99		s/gal mud weight Bento	mite-sand slurry [	35
16. Drilling additives used?	.   🕷		s/gal mud weight I		
16. Drilling additives used?  Yes	°   📓		Bentonite Bentoni		<b>5</b> 0
Describe		DOOL	Ft <sup>3</sup> volume added for an		
17. Source of water (attach analysis):	— I   📓	f. How in:		Tremie [	
	i 🚟		•	Fremie pumped Gravity	
		6. Bentonite	real a Re	ntonite granules [	- 00
E. Bentonite seal, top ft. MSL or	10 ft.	<b>1000</b>	in. □3/8 in. □1/2 in. B	_	
Li Beliantic seat, asp		<b>M</b>	TONITE CRUMBLE		1000000
F. Fine sand, top ft. MSL or	40 ft.	7. Fine sand	material: Manufacturer, pro		
		<u> </u>	lica sand		
G. Filter pack, top ft. MSL or	4.5 tr	b. Volume		_ft <sup>3</sup>	
A MCI	500	1	material: Manufacturer, pr	oduct name and m	iesh size
H. Screen joint, top ft. MSL or	2.9 11.	<b></b>	LINT SAND	ft <sup>3</sup>	
I. Well bottom ft. MSL or _ l	5.5 ft.	b. Volume 9. Well casin	g: Flush threaded PV	C schedule 40	
J. Filter pack, bottom ft. MSL or _ [	· · · · · · · · · · · · · · · · · · ·		Flush threaded PV		
J. Filter pack, bottom It. MSE of _[	- · · · · · · · · · · · · · · · · · · ·	10 Screen ma	terial: 2" PVC	Other [	
K. Borehole, bottom ft. MSL or _1	55 ft.	a. Screen		Factory cut	— — ■ 11
M. Boleholo, collant	· · ·			Continuous slot	
L. Borehole, diameter _ 9.25 in. be	ow ground Surface	b. Manufac		Other D	
M. O.D. well casing _ Z O _ in.	, , ,	c. Slot siz	e:		<u>0</u> <u>1</u> <u>0</u> in.
• • •		d Slotted	=		<b>Q.Q</b> ft.
N. I.D. well casing _ 1.8 _ in.		11. Backfill m	aterial (below filter pack):	None Duber	*0000000
I hereby certify that the information on this	V = .	orrect to the best of m	y knowledge.		
Signature	Firm 1)1/GI	T ENVIRONME	WTAL CODVICE	EC TNC	

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.

Well developed by: Person's Name and Firm

Firm:

INC.

ADVENT ENVIRONMENTAL.

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

ADVENT ENVIR. SERVICES, INC.

			ste 🔲 Wastewater 🗖 rground Tanks 🗖 Oth		
Facility/Project Name		County Name		Well Name	
•			TON	MW-	3
Facility License Permit or Monitoring Number					
Tablety Election, Telline of Wolflebring Transcel	·				
Facility License, Permit or Monitoring Number  1. Can this well be purged dry?  2. Well development method     surged with bailer and pumped     surged with block and pumped     surged with block and pumped     surged with block, bailed and pumped     surged with block, bailed and pumped     compressed air     bailed only     pumped slowly     Other  3. Time spent developing well  4. Depth of well (from top of well casisng)  5. Inside diameter of well  6. Volume of water in filter pack and well     casing  7. Volume of water removed from well  8. Volume of water added (if any)  9. Source of water added  10. Analysis performed on water added?     (If yes, attach results)	Yes  4  6  7  7  7  7  7  7  7  7  7  7  7  7	County Code  No  No  No  No  No  O min.  O ft.  O jn.  O gal.	11. Depth to Water (from top of well casing)  Date  Time  12. Sediment in well bottom  13. Water clarity	Before Development  a. $\approx 10.00$ ft.  b. $\frac{0}{m} = \frac{9}{d} = \frac{9}{y} = \frac{9}{y}$ c. $\frac{1}{2} = \frac{0}{2} = \frac{0}{y} = \frac$	After Development  2 / 3.00 ft.  D 9 / 0 9 / 9 / 9 / m m d d y y  1 2 : 30 p.m.  _0.0 inches  Clear 20 Turbid 25 (Describe)  t solid waste facility:
16. Additional comments on development:					

Signature:

Firm:

Print Initials:

D I D	lid Waste  Haz. Waste  L & Repair  Undergroun		MONITORING WE Form 4400-113A		UCTION Rev. 4-90
Facility/Project Name	Local Grid Location of We		Well Name	11	*
SERIGRAPH, INC.	ft. 🗀 S.	ft. □ E.	MW-	<u>- 7</u>	
	Grid Origin Location	ong or	Wis, Unique Well Number	r DNR Well	Number
Type of Well Water Table Observation Well ■ 11	St. Plane f	•	Date 117-11 14-11-4		
Piezometer 12	Section Location of Waste		$\frac{Q}{m}\frac{Y}{m}$	$\frac{2}{1}$ $\frac{106}{4}$ $\frac{9}{y}$	<u></u>
Distance Well Is From Waste/Source Boundary	CE 114 of SLI 114 of Soc	<u>/3</u> ,T. <u>//</u> N, R. <u>/</u> 1 ☐ E.	Well Installed By: (Perso	on's Name and	Firm)
≈ 30° ft.	Location of Well Relative		MATT- WIS. SOIL	TESTING	
Is Well A Point of Enforcement Std. Application?		Sidegradient			
Yes No	d 🗖 Downgradient r		P. Pavalko-AUVENT	ENVIK. JE	P. INC.
A. Protective pipe, top elevation 2.5.0	ft. MSL	1. Cap and lock?		Pr Yes	□ No
B. Well casing, top elevation 2.40	ft. MSL	2. Protective cov	• •		4.0 in.
	. 11	b. Length:	eter.	_	5.0 ft.
C. Land surface elevation O	II. MSL	c. Material:		Steel	
D. Surface seal, bottom ft. MSL or	1.0 ft.	<b>V</b>		Other	_ ~~~
12. USCS classification of soil near screen:		d. Additional	protection?	☐ Yes	****
GP GM GC GW SW G	SP 🔳	19 (	ribe:		_
	СН-□-			Bentonite	<b>3</b> 0
Bedrock □		3. Surface seal:		Concrete	
13. Sieve analysis attached?  Yes	No S	<b>X</b> \		Other	
14. Drilling method used: Rotary	1 100	34. Material betw	een well casing and protecti	ve pipe:	,,,,,,,
Hollow Stem Auger	∞∞∞ I <b>m</b> 6			Bentonite	
Other 🗆	🐰	₩ _		lar space seal	***
15. Drilling fluid used: Water □ 02 Air □	, I 🐰	XXI -	INT SAND	Other	
15. Drilling fluid used: Water □ 0 2 Air □ Drilling Mud □ 0 3 None ■		5. Annular space		lar Bentonite	
Diming mad a 05 Note a			al mud weight Bentoni		
16. Drilling additives used?	<b>√</b> 6   ₩		al mud weight Ber		
			ntonite Bentonite- Ft <sup>3</sup> volume added for any		<b>□</b> 50
Describe	I 🐰 I	e	_	Tremie	<b>□</b> 01
17. Source of water (attach analysis):		1. How histan		mie pumped	
	1 100	‱ ⋘		Gravity	
		6. Bentonite seal	: a. Bento	mite granules	
E. Bentonite seal, top ft. MSL or	.1.0 ft ₩	b. □1/4 in.	□3/8 in. □ 1/2 in. Ben	tonite pellets	<b>32</b>
	<b>\</b> \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		NITE_CRUMBler	Other	<b>12</b>
F. Fine sand, top ft. MSL or	.4.0 ft.\\		terial: Manufacturer, produ	uct name & m	esh size
	, 101 £	· · ·	ASAND	1	- ##
G. Filter pack, top ft. MSL or	.1.5 L	b. Volume ad			
H. Screen joint, top ft. MSL or	500	1	aterial: Manufacturer, prod	uct name and	mesh size
H. Screen joint, top ft. MSL or	· · · · · · · · · · · · · · · · · · ·	a REV FLI		t <sup>3</sup>	-
I. Well bottom ft. MSL or 1	S e fts	b. Volume ad 9. Well casing:	Flush threaded PVC	-	23
1. Well boltom	z.2	in the state of th	Flush threaded PVC		
J. Filter pack, bottom ft. MSL or _ [	55 ft \[			Other	
		10. Screen materi	al: 2" PVC		
K. Borehole, bottom ft. MSL or _ 1	5.5 ft.	a. Screen typ		Factory cut	<b>I</b> 11
	1			ntinuous slot	<b>0</b> 01
L. Borehole, diameter _ 9.25 in.		a		Other	
_	low ground surpace	b. Manufactur	rer		
M. O.D. well casing _ Z O _ in.		c. Slot size:	anth.		010 in.
		d Slotted len	-		<u>1</u> 0.0 ft. ■ 14
N. I.D. well casing		II. Backfill mater	ial (below filter pack):	None Other	6000000
I hereby certify that the information on this	form is true and cor	rect to the heet of my	knowledge		<u> </u>
Signature	Firm .				
11012 11	1 (1)1/61/7	ENNIRGAIMEN	TAL CARVICE	LNC	

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.

Well developed by: Person's Name and Firm

Route to: Solid Waste					
Facility/Project Name County		County Name		Well Name	
		WASHING	TON	mw-4	
Facility License, Permit or Monitoring Number	r		Wis. Unique Well N		ell Number
1. Can this well be purged dry?	☐ Ye	s 🖪 No	11. Depth to Water	Before Development	After Development
2. Well development method			(from top of	a. = 10.00 ft.	2 13.00 ft.
surged with bailer and bailed	<b>=</b> A	1	well casing)		
surged with bailer and pumped		1	1		
surged with block and bailed	_	2	Date	.09,09,91	09,06,91
surged with block and pumped	_	2	J	$b.\frac{O}{m}\frac{q}{m}\frac{1}{d}\frac{Q}{d}\frac{q}{d}\frac{1}{y}\frac{q}{y}$	m m d d v v
surged with block, bailed and pumped		0		• •	1
compressed air		.0	Time	c 1:00 Pann	_2:30 = a.m. p.m.
bailed only			12.00	с раш	p
pumped only			12. Sediment in well	~ 2.0 inches	O . O inches
pumped slowly	_		bottom		
Other	_ 🗆 _	_	13. Water clarity	Clear 10 Turbid 15	Clear ■ 20 Turbid □ 25
3. Time spent developing well	4			(Describe)	(Describe)
5. Time spent developing wen	_~	O min.		(Describe)	(Describe)
4. Depth of well (from top of well casisng)	_18	. <u>O</u> ft.			
5. Inside diameter of well	_1	<u>80</u> in.			
6. Volume of water in filter pack and well casing	_ <u>≈</u> _	7.3 gal.	Fill in if drilling fluid	ds were used and well is a	t colid wasta facility
7. Volume of water removed from well	_25	. <u>O</u> gal.		mg/l	1
8. Volume of water added (if any)	0	. <u>O</u> gal	1 ·	ing/i	ing/i
9. Source of water added			15. COD	mg/l	mg/l
10. Analysis performed on water added? (If yes, attach results)	☐ Ye	s 🗖 No	<b>1</b> 7.		
16. Additional comments on development:					
•					

Name: PETER E. PAVALKO

Firm: ADVENT ENVIRONMENTAL SERVICES,

Firm: ADVENT ENVIRONMENTAL SERVICES, Firm: ADVENT ENVIR. SERVICES, INC.

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



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Southeast District

2300 N. Dr. Martin Luther King Jr. Dr.
Post Office Box 12436
Milwaukee, Wisconsin 53212
Telephone: 414-263-8500

Telefax: 414-263-8483

File Ref: 4440

Carroll D. Besadny Secretary

November 13, 1991

Tom Raven
Serigraph, Inc.
760 Indiana Avenue
P.O. Box 438
West Bend, Wisconsin 53095

Dear Mr. Raven:

RE: Proposed ground water monitoring and soil remediation at the Serigraph No. 1 Site, 760 Indiana Avenue, West Bend.

This letter acknowledges the receipt of the Groundwater Monitoring and Additional Soil Remediation Plan, for the above referenced site, submitted on your behalf by Advent Environmental Services, Inc.. The Wisconsin Department of Natural Resources (WDNR) approves this plan as proposed but reserves the right to require additional work if results of this investigation and monitoring program prove insufficient.

The WDNR requests that within 15 days you submit completed Soil Boring Log Information Forms (4400-122) and Monitoring Well Development Forms (4400-113B) for Monitoring Wells 1 through 4 that were installed on September 9, 1991. The WDNR also requests that in the future you utilize these torms mentioned above and the Monitoring Well Construction Form (4400-113A). See attachments.

The Department appreciates your cooperation in cleaning up contamination at this site and your patience in awaiting a response. If you have any questions about this letter, you may contact me at 414-263-8650, or write to me at the address shown in the letterhead.

Sincerely,

Jennifer D. King Hydrogeologist

Environmental Response

c: Peter E. Pavalko - Advent Environmental Services, Inc.

SED Case File

Enclosures: Monitoring Well Construction Form 4400-113A

Monitoring Well Development Form 4400-113B Soil Boring Log Information Form 4400-122

## ADVENT

October 9, 1991

Mr. Tom Ravn
Environmental Engineer
Serigraph, Inc.
760 Indiana Avenue
P.O. Box 438
West Bend, WI 53095

Dear Mr. Ravn:

Re: Groundwater monitoring and additional soil remediation at the Serigraph, Inc. - Plant No. 1 Site, 760 Indiana Avenue, West Bend, Wisconsin, 53095. AESI Project No. 95036

The purpose of this letter is to update you on groundwater monitoring activities since the completion of excavation operations at the Serigraph site in July 1991. This letter will also address the installation of a passive soil venting system.

## Groundwater Monitoring

Environmental Services, Inc. (AESI) recommended additional groundwater monitoring at the site to determine the extent and degree of groundwater contamination (see AESI Environmental Assessment Report for Serigraph, Inc. - Plant No. 1, September 1991).

On September 6, 1991, Peter E. Pavalko of AESI supervised the installation of four groundwater monitoring wells around the perimeter of the excavation limits. The number and location of the groundwater monitoring wells were approved by Jeff Fischer, Hydrogeologist, WDNR Environmental Repair Section, prior to installation. The wells were installed and surveyed by Wisconsin Soil Testing, Germantown, Wisconsin. The exact locations of the monitoring wells are depicted in Figure 1. The wells were installed according to Wisconsin Department of Natural Resources (WDNR) guidelines as outlined in Wisconsin Administrative Code-Chapters NR 141.10 to 141.19. Monitoring well construction reports are provided in Attachment A.

Soil cuttings produced during the installation of the wells were screened with a calibrated photoionization detector (PID). No PID readings above 0.10 ppm were recorded. Groundwater was encountered during the installation of each well at a depth of approximately 10.0 feet.

Mr. Tom Ravn October 9, 1991 Page Two

On September 9, 1991, Peter Pavalko returned to the site to sample the wells and collect groundwater level data. The wells were developed according to WDNR guidelines as outlined in Chapter NR 141.21. All purge water was drummed and left on-site pending laboratory analyses. Following development, each well was sampled using a disposable polyethylene bailer. The contents of each bailer were poured into four 40 ml vials, one 1 liter glass amber jar, and one 250 ml plastic jar. Samples were preserved (see Chain of Custody for preservative codes) and cooled to 4°C for transport to the laboratory.

Groundwater samples from each well were analyzed for volatile organic compounds (VOCs), petroleum volatile organic compounds (PVOCs), gasoline and diesel range organics (GROs and DROs), and total lead. Sample methodology is presented on the laboratory data sheets. See Attachment B for the original laboratory data.

Hydrogeologic data collected during these activities indicate that the groundwater in the investigated area is flowing to the northeast. Groundwater contours and the relative groundwater elevations of each well are shown on Figure 1. The hydraulic gradient throughout the site is 0.011 feet per foot. The locations of monitoring wells MW-2, MW 3, and MW 4 should be adequate to determine if petroleum constituents are migrating from the excavation limits. Monitoring well MW-1 will provide background groundwater data.

Laboratory analyses of the samples collected from the site did not indicate the presence of VOCs, PVOCs, GROs, or DROs above their respective laboratory detection levels. A total lead level of 1.80 ug/l was detected in sample MW-1A. The Preventive Action Limit for lead in groundwater is 5.0 ug/l. No lead levels above the 1.34 ug/l laboratory detection limit were detected in samples MW-2A, MW-3A, or MW-4A.

AESI recommends that groundwater be sampled biannually for two years from the initial sampling date. Based on the initial groundwater sampling results and the nature of the remaining contaminated soil at the site (diesel fuel), AESI recommends that all subsequent samples be analyzed for DROs and PVOCs.

Mr. Tom Ravn October 9, 1991 Page Three

## Additional Soil Remediation

Based on your September 1, 1991 meeting with Mr. Jeff Fischer of WDNR, AESI proposes the installation of two passive soil vents near the northwest corner of the facility. Soil samples collected from the 1.0- to 8.0-foot depth interval against the foundation of the building produced PID readings of 8 to 22 ppm. Laboratory analysis of a sample collected from this are indicated a DRO compound level of 6,400 mg/kg.

Ballage Surger with a color of the same of the color of t

The approximate locations of the vents are depicted in Figure 1. The purpose of the vents is to provide a conduit for air infiltration to the subsurface soils and enhance microbial activity and increase the biodegradation rate of petroleum hydrocarbons. Figure 2 depicts the design specifications for the passive vents to be installed at the site. AESI recommends that the vents be installed as soon as possible in order to reduce the potential for the remaining contaminated soil to act as a source of groundwater contamination.

માં હુમ્માલા મુક્કાનો મહાલ ૧૯૩૦ ના માર્ગલેલ પાલક લાક માર્ચનો મોલાવોને માં માર્ચ છે. આ મોલાવો માર્ચ ને કાર્યનો અને પેલ

AESI has forwarded a copy of this letter and all attachments to:

LUST Coordinator - Washington County
Wisconsin DNR, Southeast District
2300 N. Dr. Martin Luther King, Jr. Drive
P.O. Box 12436
Milwaukee, WI 53212

Wisconsin Department of Industry, Labor and Human Relations
Bureau of Petroleum Inspection and Fire Protection
P.O. Box 7969
Madison, WI 53707

Mr. Tom Ravn October 9, 1991 Page Four

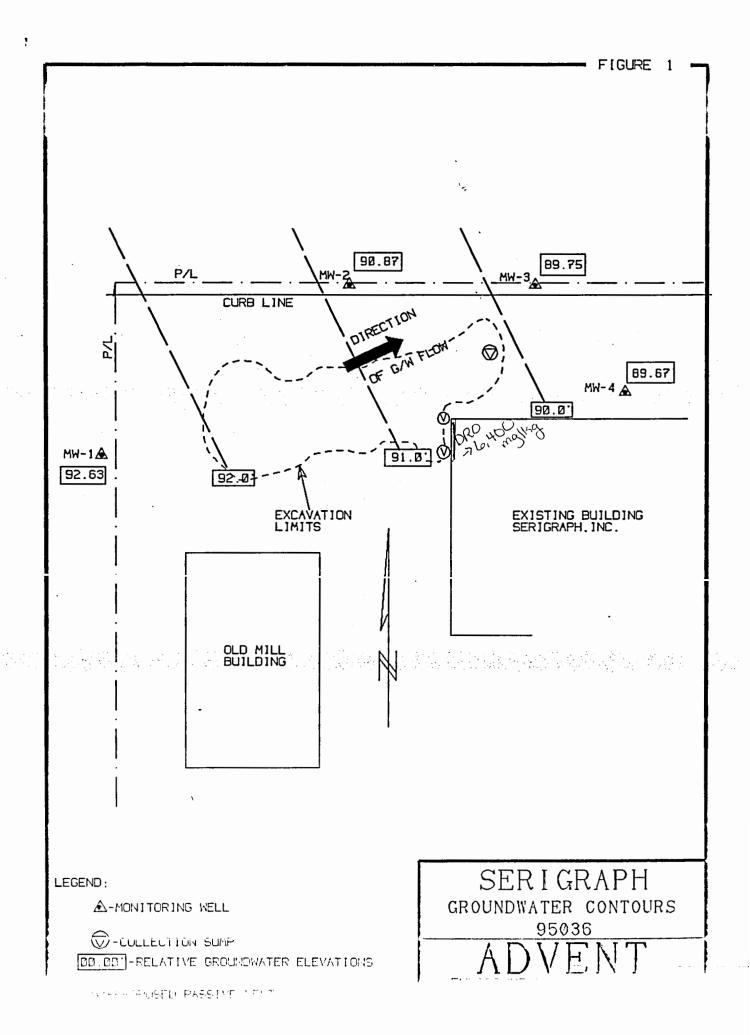
If you have any questions concerning these recommendations, please contact me.

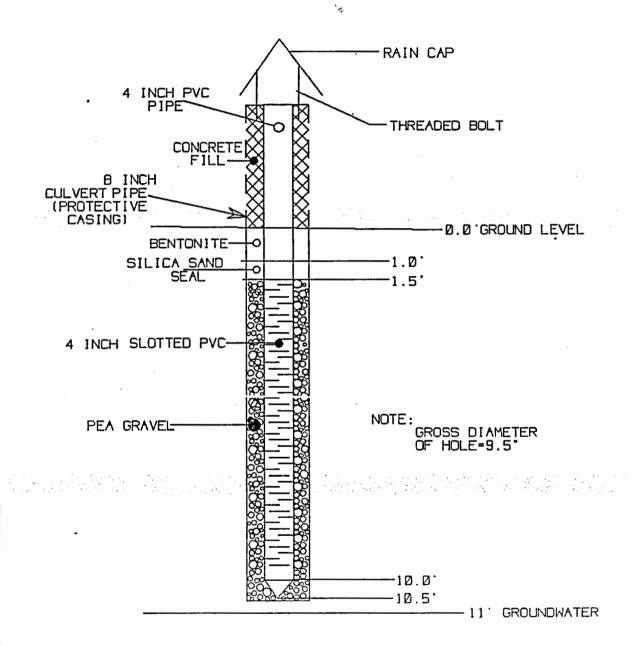
Sincerely,

ADVENT ENVIRONMENTAL SERVICES, INC.

Peter E. Pavalko

PEP/-1





SERIGRAPH
PASSIVE VENT
SPECIFICATIONS

ADVENT

and the state of the control of the state of the control of the state of the control of the state of the control of the state of the st  ENVIRONMENTAL SERVICES, INC.
P. D. BOX 246 PORT WASHINGTON, WI. # 414-284-7447 MONITOR WELL DETAIL SCALE: AS SHOWN AFPROVED BY: TREPLACED BY: P. WILL <u> NORTHERNSON SERVER - MW-1</u> FROJECT: SERIGRAPH, INC. 760 INDIANA AVENUE WEST BEND, WISCONSIN AESI WO#: 95036 ELEV. FT.HSL DATE: 9-6-91 DEPTH (FT) TOP OF SURFACE CASING TOP OF RISER CASING GROUND SURFACE 0.0 Cement SURFACE CASING 0.0-1.0 DIAMETER: 4" TYPE: STEEL 2.5 - BOTTOM OF SURPACE CASING BACK FILL MATERIAL TYPE: BENTONITE CHIPS 1.0-3.0 RISER CASING DIAMETER: 2" PVC TYPE: 3.0 TOP OF SEAL ANNULAR SEAL TYPE: BENTONITE CRUMBLES TOP OF FILTER PACK SEAL 4.0 FILTER PACK SEAL
TYPE: SILICA SAND ·:;: ·:; 4.5 TOP OF FILTER PACK FILTER PACK TYPE: RED FLINT SAND TOP OF SCREEN 5.0 SCREEN DIA.: 2" TYPE: PVC OPENINGS WIDTH: 0.010" TYPE: 15.0 - BOTTOM OF SCREEN BOTTOM OF CASING 15.0

ENVIRONMENTAL SERVICES, INC.
P. D. BOX 246# PORT WASHINGTON, HJ. # 414-284-7447 MONITOR WELL DETAIL SCALE: AS SHOWN APPROVED BY: FREFARED EY: P. FAVELKO MODUTORARG WELL - MW-X FROJECT: SERIGRAPH, INC. 760 INDIANA AVENUE WEST BEND, WISCONSIN AESI WO#: 95036 DATE: 9-6-91 DEPTH (FT) ELEV PT.HSL TOP OF SURFACE CASING TOP OF RISER CASING GROUND SURFACE 0.0 Cement SURFACE CASING 0.0-1.0 DIAMETER: 4" TYPE:\_ STEEL 2.5 - BOTTOM OF SURPACE CASING BACK FILL MATERIAL TYPE: BENTONITE CHIPS 1.0-3.0 RISER CASING 2" DIAMETER: PVC TYPE: 3.0 TOP OF SEAL ANNULAR SEAL TYPE: BENTONITE CRUMBLES TOP OF FILTER PACK SEAL FILTER PACK SEAL TYPE: SILICA SAND 4.5 TOP OF FILTER PACK FILTER PACK TYPE: RED FLINT SAND TOP OF SCREEN 5.0 SCREEN DIA.:\_\_2" \_\_\_\_ TYPE:\_\_ PVC OPENINGS WIDTH: \_\_ 0.010" TYPE: 15.0 BOTTOH OF SCREEN - BOTTON OF CLEING | 15.0

ENVIRONMENTAL SERVICES. INC. MONITOR WELL P.D.BOX 246 \* PORT WASHINGTON, WI . # 414-284-7447 DETAIL SCALE: AS SHOWN APPROVED BY: FREPARED BY: MODERATION WELL - MARK P. PANALKO FROJECT: SERIGRAPH, INC. 760 INDIANA AVENUE WEST BEND, WISCONSIN AESI WO#: 95036 DEPTH (FT) ELEV. FT.HSL DATE: 9-6-91 TOP OF SURFACE CASING TOP OF RISER CASING GROUND SURFACE 0.0 Cement SURFACE CASING 0.0-1.0 DIAMETER: 4" TYPE: STEEL - BOTTOM OF SURPACE CASING BACK FILL HATERIAL TYPE: BENTONITE CHIPS 1.0-3.0 RISER CASING DIAMETER: 2" TYPE:\_\_ PVC 3.0 TOP OF SEAL ANNULAR SEAL TYPE:\_\_ BENTONITE CRUMBLES TOP OF FILTER PACK SEAL 4.0 FILTER PACK SEAL
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ENVIRONMENTAL SERVICES, INC. MONITOR WELL P.D.BOX 246 POTT WASHINGTON, HI . # 414-264-7447 DETRIL : SCALE: AS SHOWN APPROVED BY: FREPARED BY: MOUNTAPHIS WELL - MW-4 FROJECT: SERIGRAPH, INC. 760 INDIANA AVENUE WEST BEND, WISCONSIN AESI WO#: 95036 DATE: 9-6-91 DEPTH (FT) ELEV FT.HSL TOP OF SURFACE CASING TOP OF RISER CASING GROUND SURFACE 0.0 Cement SURPACE CASING 0.0-1.0 DIAMETER: 4" TYPE: STEEL 2.5 - BOTTOM OF SURPACE CASING BACK FILL MATERIAL TYPE: BENTONITE CHIPS 1.0-3.0 RISER CASING DIAMETER: 2" PVC TYPE: 3.0 TOP OF SEAL ANNULAR SEAL BENTONITE CRUMBLES TOP OF FILTER PACK SEAL FILTER PACK SEAL TYPE: SILICA SAND 4.5 - TOP OF FILTER PACK PILTER PACK TYPE: RED FLINT SAND 5.0 TOP OF SCREEN SCREEN DIA.: 2" TYPE: PVC OPENINGS WIDTH: 0.010" 15.0 - POTTOM OF SCREEK . 5.0 

ATTACHMENT B ાત્રો કિલ્લામાં અને કર્યા છે. જે કાર્યા કરાયા કરાયા કર્યા કર્યા છે. જે તે તે તે કર્યા કર્યા કર્યા કર્યા છે. તે આજ કરવાય કુલામાં તે જો કર્યા કર્યા કર્યા કર્યા કર્યા કર્યા કર્યા કર્યા કર્યા કર્યા કર્યા કરાય કરાય કરાય કર્યા છ ો તારા વિક્રોના મેન્સનો કો ત્યાં માં માના જ્યારાના દુશિયાના વિક્રોનાના તમ્મીફાઈ માથાના છે. માટે તે ઉત્સાદ માટે 

115 South 6th Street P.O. Box 2076 La Crosse, WI 54002-2076 (608) 782-3130



Division of Davy Engineering Co.

Advent Environmental Services, Inc. P.O. Box 246
Port Washington, Wisconsin 53074

September 25, 1991 Client No. 11130 Project No. 95036

Attn: Mr. Peter Pavalko

### INTRODUCTION:

Four groundwater samples were received on September 11, 1991. The client requested that the samples be analyzed for Gasoline Range Organics (GRO), Diesel Range Organics (DRO), Petroleum Volatile Organic Compounds (PVOC), Volatile Organic Compounds and Total Lead.

### SAMPLE IDENTIFICATION:

The samples were collected on September 9, 1991. The samples were collected under Project No. 95036 by Peter Pavalko of Advent Environmental Services, Inc. The samples were delivered to the laboratory on September 11, 1991 by the client. Upon arrival at the laboratory, the samples were given the following identification numbers:

DAVY LAB NO.	SAMPLE SITE		
19605	MW-1A		
19606	MW-2A		
19607	MW-3A		
19608	MW-4A		

## METHODOLOGY:

The water samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil or Diesel.

## DIESEL RANGE ORGANICS (DRO)

The samples for the determination of Diesel Range Organics (DRO) was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the samples were injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

## **GASOLINE RANGE ORGANICS (GRO)**

The samples were analyzed for Gasoline Range Organics (GRO) by taking a 5 ml portion of the sample. The samples were then purged for 11-min, using helium as the carrier gas.

Following the purge cycle, the samples were desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained from standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

## PETROLEUM VOLATILE ORGANIC ANALYSIS (PVOC)

The samples were analyzed for petroleum volatile organic compounds using EPA Method 8020. A 5-ml portion of each sample was purged for eleven minutes using helium as the purge gas.

Following the purge cycle, each sample was then desorbed to a Tracor Model 540 GC equipped with a PID detector. Quantitation was based on the response of the standards through the use of linear regression curves.

115 South 6th Street P.O. Box 2076 La Crosse, WI 54002-2070 (608) 782-3130



Division of Davy Engineering Co.

## VOLATILE ORGANIC COMPOUNDS (VOC)

The water samples were analyzed for volatile organic compounds using EPA Method 8021. A 5-ml portion of each sample was purged for eleven minutes using helium as the purge gas.

Following the purge cycle, each sample was then desorbed to a Tracor Model 540 GC equipped with a Hall and PID detector in series. Quantitation was based on the response of standards through the use of linear regression curves.

#### TOTAL LEAD

Each sample was analyzed for total lead using the latest method from the EPA. The samples were digested and then analyzed using a Perkin-Elmer Model 2100 operated in the furnace mode. Response for the samples was quantified through the use of standards and a linear regression curve.

#### RESULTS:

The results of the Volatile Organic Compounds (VOC) and Petroleum Volatile Organic Compounds (PVOC) are given in Tables 1 and 2 respectively. The results of the analysis for Diesel Range Organics (DRO), Gasoline Range Organics (GRO) and Total Lead in the samples are given below:

SAMPLE NO.	SAMPLE SITE	GRO (ug/l)a	DRO (ug/l)a	DATE ANALYZED	TOTAL LEAD (ug/l)
19605	MW-1A	ND	ND	091391	1.80
19606	MW-2A	ND	ND	091391	ND
19607	MW-3A	ND	ND	091391	ND
19608	MW-4A	ND	ND	091391	ND

< means less than

a - calculated on a "dry weight basis"

Minimum Detection Limit =

GRO - 34.2 ug/l

DRO - 500 ug/l

LEAD - 1.34 ug/l

Submitted by:

**DAVY LABORATORIES** 

Paul A. Harris, Director

The laboratory analysis reported were determined in accordance with current methodology. The results are only representative of the samples received; conditions can be expected to vary at different times and under different sampling conditions.

" eVS

115 South 6th Street P.O. Box 2076 La Crocco, WI 54002 2076 (608) 782-3130



Division of Davy Engineering Co.

Table 1 - Volatile Organic Compounds (ug/l).

Client No.:	11130	Sample No.:	19605	
Sample:	MW-1A	Date Analyzed:	091891	
<b>p</b>				·
		Result	LOD(a)	LOQ(b)
D		ND	0.01	0.07
Benzene Bromobenzene		ND ND	0.01 0.01	0.07 0.07
Bromochloromet	hone .	ND ND	0.01	0.14
Bromodichlorome		ND ND	0.02	0.14
	enane	ND ND	0.02	0.14
Bromoform		ND ND	1.10	7.70
Bromomethane			0.04	0.28
n-Butylbenzene	_	ND		
sec-Butyl benzen		ND .	0.10	0.70
tert-butyl benzen		ND	0.10	0.70
Carbon Tetrachlo	nide	ND	0.01	0.07
Chlorobenzene		ND	0.01	0.07
Chloroethane		ND	0.10	0.70
Chloroform		ND	0.02	0.14
Chloromethane		ND	0.03	0.21
2-Chlorotoluene		ND ·	0.02	0.14
4-Chlorotoluene		ND	0.02	0.14
1,2-Dibromo-3-C	Chloropropane	ND	4.00	28.0
Dibromochlorom		ND	0.03	0.21
1,2-Dibromoetha		ND	3.00	21.0
Dibromomethane		ND	2.20	15.4
1,2-Dichlorobenz		ND	0.05	0.35
1,3-Dichlorobenz		ND.	0.02	- <b>0.14</b> to the control of the contr
1,4-Dichlorobenz		ND	0.01	0.07
Dichlorodifluoro		ND	0.05	0.35
1,1-Dichloroetha		ND	0.07	0.49
1,2-Dichloroetha		ND	0.03	0.21
1,1-Dichloroethe		ND	0.07	0.49
cis-1,2-Dichloroe		ND	0.05	0.35
trans-1,2-Dichlor		ND	0.06	0.42
•		ND ND	0.02	0.14
Dichloromethane			0.02	
1,2-Dichloroprop		ND ND		0.07
1,3-Dichloroprop		ND	0.05	0.35
2,2-Dichloroprop		ND	0.05	0.35
1,1-Dichloroprop	ene	ND	0.06	0.36
Ethyl Benzene		ND	0.01	0.07
Hexachlorobutad		ND	0.01	0.07
Isopropyl Benzer		ND	0.07	0.49
p-Isopropyl toluc		ND	0.02	0.14
Methyl-tert-butyl	l-ether	ND	0.06	0.42
Naphthalene		ND	0.06	0.42

115 South 6th Street F.O. BOX 2010 La Crosse, WI 54602-2076 (608) 782-3130



Division of Davy Engineering Co.

## Continued Table 1

Client No.:

11130

19605 Sample No.:

Sample No.: 19605	- ·		
	Result	LOD(a)	LOQ(b)
. D	NTO	0.01	0.07
n-Propyl benzene	ND	0.01	0.07
Styrene	ND	0.02	0.14
1,1,1,2-Tetrachloroethane	ND	0.01	0.07
1,1,2,2-Tetrachloroethane	ND	0.01	0.07
Tetrachloroethene	ND	0.04	0.28
Toluene	ND	0.01	0.07
1,2,3-Trichlorobenzene	ND	0.02	0.14
1,2,4-Trichlorobenzene	ND	0.03	0.21
1,1,1-Trichloroethane	ND	0.03	0.21
1,1,2-Trichloroethane	ND	0.06	0.42
Trichloroethene	ND	0.01	0.07
Trichlorofluoromethnae	ND	0.03	0.21
1,2,3-Trichloropropane	ND	0.50	3.50
1,3,5 Trimethyl benzene	ND	0.05	0.35
1,2,4-Trimethylbenzene	ND	0.01	0.07
Vinyl Chloride	ND	0.04	0.28
m/p-Xylene	ND	0.02	0.14
o-Xylene	ND	0.02	0.14

## NOTES:

a - LOD = Limit of Detection

c - ND = Not Detected

b - LOQ = Limit of Quantitation

d - BQL = Below Detection Limit

Table 2 - Results of Petroleum Volatile Organic Compounds (ug/l)

Client No. 11130 Sample: MW-1A

Sample No. 19605 Date Analyzed: 091891

	Result	LOD(a)	LOQ(b)
Benzene	ND	0.01	0.07
Ethyl Benzene	ND	0.01	0.07
Methyl tert-butyl ether	ND	0.06	0.44
Toluene	ND	0.01	0.07
1,2,4-Trimethylbenzene	ND	0.02	0.140
1,3,5-Trimethylbenzene	ND	0.02	0.140
m/p Xylene	ND	.002	0.14
o-Xylene	ND ·	.002	0.14

NOTES:

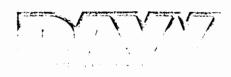
a - LOD = Limit of Detection

b - LOQ = Limit of Quantitation

c - ND = Not Detected

d - BQL = Below Detection Limit

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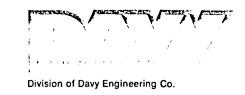


Division of Davy Engineering Co.

## Table 1 - Volatile Organic Compounds (ug/l).

Client No.: Sample:	11130 MW-2A	Sample No.: Date Analyzed:	19606 091891	
		Result	LOD(a)	LOQ(b)
Benzene		ND	0.01	0.07
Bromobenzene		ND	0.01	0.07
Bromochloromet	hane ·	ND .	0.02	0.14
Bromodichlorom		ND	0.02	0.14
Bromoform		ND	0.02	0.14
Bromomethane		ND	1.10	7.70
n-Butylbenzene		ND	0.04	0.28
sec-Butyl benzen	e	ND	0.10	0.70
tert-butyl benzen		ND .	0.10	0.70
Carbon Tetrachlo		ND	0.01	0.07
Chlorobenzene		ND	0.01	0.07
Chloroethane		ND	0.10	0.70
Chloroform		ND	0.02	0.14
Chloromethane		ND	0.03	0.21
2-Chlorotoluene		ND	0.02	0.14
4-Chlorotoluene		ND	0.02	0.14
1,2-Dibromo-3-0	Chloropropane	ND	4.00	28.Û
Dibromochloron	nethane	ND	0.03	0.21
1,2-Dibromoetha	ane	ND	3.00	21.0
Dibromomethan		ND	2.20	15.4
1,2-Dichloroben		ND	0.05	0.35
1,3-Dichloroben	zene	ND	0.02	0.14
1,4-Dichloroben		ND	0.01	0.07
Dichlorodifluoro		ND	0.05	0.35
1,1-Dichloroetha		ND	0.07	0.49
1,2-Dichloroetha		ND -	0.03	0.21
1,1-Dichloroethe		ND	0.07	0.49
cis-1,2-Dichloro		ND	0.05	0.35
trans-1,2-Dichlo		ND	0.06	0.42
Dichloromethan		ND	0.02	0.14
1,2-Dichloroprop		ND	0.01	0.07
1,3-Dichloroprop		ND	0.05	0.35
2,2-Dichloroprop		ND	0.05	0.35
1,1-Dichloroprop	pene	ND .	0.06	0.36
Ethyl Benzene	Ľ	ND	0.01	0.07
Hexachlorobutad		ND	0.01	0.07
Isopropyl Benze		ND	0.07	0.49
p-Isopropyl tolu		ND	0.02	0.14
Methyl-tert-buty	ri-einer	ND	0.06	0.42
Naphthalene		ND	0.06	0.42

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## Continued Table 1

Client No.: 11: Sample No.: 196

11130 19606

Jumpo No. 17000	Result	LOD(a)	LOQ(b)
n-Propyl benzene	ND	0.01	0.07
Styrene	ND	0.02	0.14
1,1,1,2-Tetrachloroethane	ND	0.01	0.07
1,1,2,2-Tetrachloroethane	ND	0.01	0.07
Tetrachloroethene	ND	. 0.04	0.28
Toluene	ND	0.01	0.07
1,2,3-Trichlorobenzene	ND	0.02	0.14
1,2,4-Trichlorobenzene	ND	0.03	0.21
1,1,1-Trichloroethane	ND	0.03	0.21
1,1,2-Trichloroethane	ND	0.06	0.42
Trichloroethene	ND	0.01	0.07
Trichlorofluoromethnae	ND	0.03	0.21
1,2,3-Trichloropropane	ND	0.50	3.50
1,3,5 Trimethyl benzene	ND	0.05	0.35
1,2,4-Trimethylbenzene	ND	0.01	0.07
Vinyl Chloride	ND	0.04	0.28
m/p-Xylene	ND	0.02	0.14
o-Xylene	ND	0.02	0.14

## NOTES:

a - LOD = Limit of Detection

c - ND = Not Detected

b - LOQ = Limit of Quantitation

d - BQL = Below Detection Limit

Table 2 - Results of Petroleum Volatile Organic Compounds (ug/l)

Client No. 11130 Sample: MW-2A Sample No. 19606 Date Analyzed: 091891

•	Result	LOD(a)	LOQ(b)
Benzene	ND	0.01	0.07
Ethyl Benzene	ND	0.01	<b>0</b> .07
Methyl tert-butyl ether	ND	0.06	0.44
Toluene	ND	0.01	0.07
1,2,4-Trimethylbenzene	ND	0.02	0.140
1,3,5-Trimethylbenzene	ND	0.02	0.140
m/p Xylene	ND	.002	0.14
o-Xylene	ND	.002	0.14

NOTES:

a - LOD = Limit of Detection

b - LOQ = Limit of Quantitation

c - ND = Not Detected

d - BQL = Below Detection Limit

115 South 6th Street P.O. Box 2070 La Crosse, WI 54002-2076 (608) 782-3130



Division of Davy Engineering Co.

## Table 1 - Volatile Organic Compounds (ug/l).

		Table 1	- Volame Organic	Compounds (ug/	1).
Client No.: Sample:	11130 MW-3A		Sample No.: Date Analyzed:	19607 091891	
			Result	LOD(a)	LOQ(b)
Dibromochloro 1,2-Dibromoctl Dibromometha	ene loride  ce e e -Chloropropane methane hane		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3	0.01 0.02 0.02 0.02 1.10 0.04 0.10 0.10 0.01 0.01 0.01 0.02 0.03 0.02 0.02 4.00 0.03 3.00 2.20 0.05	0.07 0.07 0.14 0.14 0.14 7.70 0.28 0.70 0.70 0.07 0.07 0.14 0.21 0.14 28.0 0.21 21.0 15.4 0.35
1,2-Dichlorobe 1,3-Dichlorobe 1,4-Dichlorodifluor 1,1-Dichloroet 1,2-Dichloroet 1,1-Dichloroet 1,1-Dichloroet 1,2-Dichlorott 1,2-Dichlorometha 1,2-Dichlorometha 1,2-Dichlorometha 1,2-Dichlorometha 1,2-Dichlorometha 1,2-Dichlorometha 1,2-Dichlorometha 1,2-Dichlorometha 1,2-Dichlorometha 1,3-Dichlorometha 1,2-Dichlorometha 1,3-Dichlorometha 1,2-Dichlorometha 1,3-Dichlorometha ene nzene nzene nzene nzene nzene nzene nzene nzene nzene nzene nzene oethene ooroethene ne opane opane opane opane opane opene adiene cene uene		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0.05 0.02 0.01 0.05 0.07 0.03 0.07 0.05 0.06 0.02 0.01 0.05 0.05 0.06 0.01 0.01 0.07 0.02 0.01	0.35 0.14 0.07 0.35 0.49 0.21 0.49 0.35 0.42 0.14 0.07 0.35 0.36 0.07 0.07 0.49 0.14 0.42 0.42	

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Division of Davy Engineering Co.

## Continued Table 1

Client No.: 11130

Sample No.: 19607	Result	LOD(a)	LOQ(b)
n-Propyl benzene	ND	0.01	0.07
Styrene	ND	0.02	0.14
1,1,2-Tetrachloroethane	ND	0.01	0.07
1,1,2,2-Tetrachloroethane	ND	0.01	0.07
Tetrachloroethene	ND	0.04	0.28
Toluene	ND	0.01	0.07
1,2,3-Trichlorobenzene	ND	0.02	0.14
1,2,4-Trichlorobenzene	ND	0.03	0.21
1,1,1-Trichloroethane	ND	0.03	0.21
1,1,2-Trichloroethane	ND	0.06	0.42
Trichloroethene	ND	0.01	0.07
Trichlorofluoromethnae	ND	0.03	0.21
1,2,3-Trichloropropane	ND	. 0.50	3.50
1,3,5 Trimethyl benzene	ND	0.05	0.35
1,2,4-Trimethylbenzene	ND	0.01	0.07
Vinyl Chloride	ND	0.04	0.28
m/p-Xylene	ND	0.02	0.14
o-Xylene	ND	0.02	0.14

## NOTES:

a - LOD = Limit of Detection

c - ND = Not Detected

b - LOQ = Limit of Quantitation

d - BQL = Below Detection Limit

Table 2 - Results of Petroleum Volatile Organic Compounds (ug/l)

Client No. 11130 Sample: MW-3A

Sample No. 19607 Date Analyzed: 091891

•	Result	LOD(a)	LOQ(b)
Benzene	ND	0.01	0.07
Ethyl Benzene	ND	0.01	0.07
Methyl tert-butyl ether	ND	0.06	0.44
Toluene	ND	0.01	0.07
1,2,4-Trimethylbenzene	ND	0.02	0.140
1,3,5-Trimethylbenzene	ND	0.02	0.140
m/p Xylene	ND	.002	0.14
o-Xylene	ND	.002	0.14

NOTES:

a - LOD = Limit of Detection

b - LOQ = Limit of Quantitation

c - ND = Not Detected

d - BQL = Below Detection Limit

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Division of Davy Engineering Co.

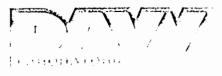
Table 1 - Volatile Organic Compounds (ug/l).

Client No.: Sample:	11130 MW-4A	Sample No.: Date Analyze	19608 xd: 091891	
		Result	LOD(a)	LOQ(b)
Benzene		ND	0.01	0.07
Bromobenzene		ND	0.01	0.07
Bromochlorome	thane	ND	0.02	0.14
Bromodichloron	nethane	ND	0.02	0.14
Bromoform		ND	0.02	0.14
Bromomethane		ND	1.10	<b>7.7</b> 0
n-Butylbenzene		ND	0.04	0.28
sec-Butyl benzer		ND	0.10	0.70
tert-butyl benzer		ND	0.10	0.70
Carbon Tetrachl	oride	ND	0.01	0.07
Chlorobenzene		ND	0.01	0.07
Chloroethane	•	ND	0.10	0.70
Chloroform		ND	0.02	0.14
Chloromethane		ND	0.03	0.21
2-Chlorotoluene		ND	0.02	0.14
4-Chlorotoluene		ND	0.02	0.14
1,2-Dibromo-3-		MD	4.00	28.0
Dibromochloror		ND	0.03	0.21
1,2-Dibromoeth		ND	3.00	21.0
Dibromomethan		ND	2.20	15.4
1,2-Dichloroben		ND	0.05	0.35
1,3-Dichloroben		ND	0.02	0.14
1,4-Dichloroben		ND .	0.01	0.07
Dichlorodifluoro		ND	0.05	0.35
1,1-Dichloroeth		ND	0.07	0.49
1,2-Dichloroeth		ND	0.03	0.21
1,1-Dichloroeth		ND	0.07	0.49
cis-1,2-Dichloro		ND	0.05	0.35
trans-1,2-Dichlo		ND	0.06	0.42
Dichloromethan		ND	0. <b>0</b> 2	0.14
1,2-Dichloropro	pane	ND	0.01	0.07
1,3-Dichloropro		ND	<b>0</b> .05	0.35
2,2-Dichloropro		ND	0.05	0.35
1,1-Dichloropro	pene	ND	0.06	0.36
Ethyl Benzene		ND	0.01	0.07
Hexachlorobutac		ND	0.01	0.07
Isopropyl Benze		ND	0.07	0.49
p-Isopropyl tolu		ND	0.02	0.14
Methyl-tert-buty	l-ether	ND	0.06	0.42
Naphthalene		ND	0.06	0.42

115 South 6th Street P.C. Box 2076

La Crosse, WI 54002-2076

(608) 782-3130



Division of Davy Engineering Co.

### Continued Table 1

Client No.: 11130

Sample No.: 19608			
`.	Result	LOD(a)	LOQ(b)
n-Propyl benzene	ND	0.01	0.07
Styrene	ND	0.02	0.14
1,1,1,2-Tetrachloroethane	. ND	0.01	0.07
1,1,2,2-Tetrachloroethane	ND	0.01	0.07
Tetrachloroethene	ND .	0.04	0.28
Toluene	ND	0.01	0.07
1,2,3-Trichlorobenzene	ND	0.02	0.14
1,2,4-Trichlorobenzene	ND	0.03	0.21
1,1,1-Trichloroethane	ND	0.03	0.21
1.1.2-Trichloroethane	ND	0.06	0.42
Trichloroethene	ND	0.01	0.07
Trichlorofluoromethnae	ND	0.03	0.21
1,2,3-Trichloropropane	ND	0.50	3.50
1,3,5 Trimethyl benzene	ND	0.05	0.35
1.2.4-Trimethylbenzene	ND	0.01	0.07
Vinyl Chloride	ND	0.04	0.28
m/p-Xylene	ND	0.02	0.14
o-Xylene	ND	0.02	0.14
•			

## NOTES:

a - LOD = Limit of Detection

c - ND = Not Detected

b - LOQ = Limit of Quantitation

d - BQL = Below Detection Limit

Table 2 - Results of Petroleum Volatile Organic Compounds (ug/l)

Client No. 11130 Sample: MW-4A Sample No. 19608 Date Analyzed: 091891

	Result	LOD(a)	LOQ(b)
Benzene	ND	0.01	0.07
Ethyl Benzene	ND	0.01	0.07
Methyl tert-butyl ether	ND	0.06	0.44
Toluene	ND	0.01	0.07
1,2,4-Trimethylbenzene	ND	0.02	0.140
1,3,5-Trimethylbenzene	ND	0.02	0.140
m/p Xylene	ND	.002	0.14
o-Xylene	ND	.002	0.14

NOTES:

a - LOD = Limit of Detection

b - LOQ = Limit of Quantitation

c - ND = Not Detected

d - BQL = Below Detection I imit

A	D	V	$\mathbf{E}$	N	$\mathbf{T}$	
			-			

## **CHAIN OF CUSTODY RECORD**

PAGE \_\_\_OF

Use Black Ink Only, Pre-EDVIDENMENTAL SERVICES, INC. : Filtered ( P.O. BOS. 46, PORT WASHINGTON, WI 53074 -114-284-7447 Preserved PROJ. NO **PROJECT NAME** Refrigerated (). ERIGRAPH INC. Sample type (Grab/Co... ŏ SAMPLERS: (Signature) Sample sources (WW, GW, DV. Total Number Preservation Code A - None D - NaC B - HNO3 E - HCL C - H<sub>2</sub>SO4 F - \_\_\_\_ **AESI Analysis** Lab No. Date Time Sample Station ID Comments: MW-IA Fills Round of Southers Million MW- 7 1:30 MW- 3A 2-2 MW-4A Report to: Received by: (Signature) Date / Time Date / Time Relinquished by: (Signature) 9/9/ 3:15 Received by: (Signature) Relinquished by: (Signature) Date / Time Date / Time Street State Zip \_\_\_ City\_\_\_ Phone no. ( Received for Laboratory by: (Signature) Relinquished by: (Signature) Date / Time Fax no. ( Remarks: 1 WINR LUST Snidliner Receipt pH \_\_\_\_\_ Receipt temp



September 11, 1991

Mr. Jeffery L. Fischer
Hydrogeologist
Environmental Repair Section
State of Wisconsin
Department of Natural Resources
2300 N. Dr. Martin Luther King Jr. Dr.
Box 12436
Milwaukee, Wisconsin 53212

Dear Mr. Fischer:

This letter is to follow up our meeting with you on September 11, 1991. The purpose of that meeting was to review the Environmental Assessment Report for Serigraph, Inc. - Plant No. 1 located at 760 Indiana Avenue, West Bend, Wisconsin. This assessment included a description of the excavation and thermal desorption treatment of diesel and gasoline impacted soil at the site between June and July, 1991. It also contained a description and location of our groundwater monitoring wells and one groundwater pumping well. The report was prepared by Aqua-Tech Inc., subsequently known as Advent Environmental Services.

Upon completion of the excavation and thermal desorption, there remains a small amount of contaminated soil estimated to be approximately 30 cubic yards at the site. This material was not excavated as it is directly adjacent to the west side of the north corner of the facility. Disruption of the soil in this area would have created a strong potential for damage to the Building.

Based on our meeting with you, and in light of the fact that some contaminated soil still remains on the site, Serigraph Inc. proposes the following course of action.

- 1. Serigraph will install a passive ventilation system in the area of contamination. The design of this system shall be submitted to the Department of Natural Resources for its approval prior to its installation.
- 2. Serigraph will conduct sampling and analysis by September 30, 1991, of groundwater utilizing the installed groundwater monitoring wells.
- 3. Serigraph Inc. will have the flow rate of groundwater in the area of remaining contamination calculated.
- 4. Based on the rate of flow of groundwater, Serigraph Inc. will submit to the DNR a proposal for monitoring of the groundwater at the site.

5. Based on the results obtained from groundwater monitoring, Serigraph Inc. will submit to the DNR a proposal for groundwater remediation should it become necessary as determined by the Department.

I trust the following meets with your approval. Should you require more information, or wish to discuss the matter, please contact me at 335-7343.

Sincerely,

J. Thomas Ravn

Environmental Engineer

JTR:cb

cc: Advent Environmental Services

Thomas Renn

Wisconsin Department of Industry, Labor and Human Relations

# FORM 4 DNR SITE INVESTIGATION AND

REMEDIAL ACTION PLAN REVIEW

Safety and Buildings Division Bureau of Petroleum Inspection and Fire Protection P.O. Box 7969 Madison, WI 53707 (608) 267-4545 (608) 267-7538

Section 101.143 (3) (c) 4, Wis. Stats., requires that a claimant obtain written approval from the Department of Natural Resources (DNR) when requesting reimbursement for activities in response to a discharge from a commercial petroleum product storage system or home oil tank. The DNR approval must indicate that the site investigation and remedial action plan is adequate to meet requirements of s. 144.76, Wis. Stats. The DNR approval is created for the purpose of meeting the requirements of s. 101.143 (3), Wis. Stats., only and does not bar the DNR from requiring that additional investigation and/or remediation activities be performed by persons responsible under s. 144.76. Wis. Stats.

Office the Order			
Office Use Only Application Case #	H.C. D.		
	allation Dateallation Date		
	allation Date		
TOTAL DE T	anation bate		
Claimant's Name	Remedial Action Site Name (if business)		
John B. Torinus Jr.	Serigraph Incorporated		
Street Address	Remedial Action Site Address		
760 Indiana Avenue	760 Indiana Avenue		
City, State, Zip Code West Bend, WI 53095	City, State, Zip Code West Bend, WI 53095		
Claimant's Telephone Number	Telephone Number of Site		
(14 )335-7276	414 )335-7200		
Claimant is			
	cify:		
Approval requested for: Petroleum Product Storage Sy	stem Home Oil Tank System Aboveground		
FOR DNR USE ONLY (Indicate Whether Complete	d Remedial Action or Other Action(s))		
A copy of this completed document must be submitted to DNR f			
investigation and remediation) in accordance with s. 101.143 (3			
Completed Remedial Action (complete cleanup and sing			
Completed Remedial Action (complete cleanup and sing	gre claim for reimbursement, (steps : amough s,		
Progress Payments For:			
☐ Emergency Action (Step 1 - check only if emergency acti	on was performed)		
Completion of Site Investigation (Step 1) and Proposed	Remedial Action Plan (Step 2)		
5 2 - 1'-  A - 1'- (5 2)	Ct-1 A		
Remedial Action (Step 3)	Check Appropriate		
Operation/Maintenance and Environmental Monitoring	g (annual claim for Box(es)		
remedial action activities) (Step 4)			
Site Investigation By Order of DNR And/Or DILHR - No R	emedial Action		
The DNR received a request for approval of the above identified	d activities for the site listed on this document on the		
following date $9/11/9/$			
The DNR response for purposes of s. 101.143 (3), Wis_Stats., is attached.			
Remedial action activities conducted by owners/operators are not eligible for funding under 42 USC 6991 (L.U.S.T. Funding). (See s. 101.143 (3) (a) 2., Wis. Stats.)			
Send one copy of this completed form to the address shown in the upper right corner and one copy to the claimant.			
01/1-91			
Reviewer's Signature American Date Signed 9/11/9/			
01111111000			
Reviewer's Title			

## ENVIRONMENTAL ASSESSMENT REPORT

FOR

SERIGRAPH, INC. - PLANT NO. 1
760 INDIANA AVENUE
WEST BEND, WISCONSIN

SEPTEMBER 1991

PREPARED BY
AQUA-TECH, INC.
140 SOUTH PARK STREET
PORT WASHINGTON, WISCONSIN
ATI PROJECT NO. 95036

### ENVIRONMENTAL ASSESSMENT REPORT

FOR

SERIGRAPH, INC. - PLANT NO. 1

760 INDIANA AVENUE

WEST BEND, WISCONSIN

Prepared By:

Peter Pavalko

Environmental Specialist Aqua-Tech, Inc.

Reviewed By:

Hydrogeologist Aqua-Tech, Inc.

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## 1.0 SUMMARY

Aqua-Tech, Inc. was contracted by Serigraph, Inc. to conduct an Environmental Assessment for the facility located at 760 Indiana Avenue (Plant No. 1), West Bend, Wisconsin. The purpose of the assessment was to excavate and remediate petroleum impacted soil associated with an aboveground petroleum distribution center formerly located at the site. The assessment included the following:

- \* Excavation and thermal desorption treatment of 3,267.57 tons of diesel and gasoline impacted soil between June 11, 1991 and July 9, 1991.
- \* Screening the excavation for volatile organic compounds
  (VOCs) with a photoionization detector (PID).
- \* Collection and laboratory analyses of eleven (1 per 300 tons) pre-treatment soil samples from excavated material for total petroleum hydrocarbons (TPH) as diesel fuel.
- \* Collection and laboratory analyses of twenty-two soil samples from the walls and floor of the excavation for TPH as diesel fuel and gasoline.
- \* Collection and laboratory analyses of fifteen posttreatment soil samples for TPH as diesel fuel.
- \* Documentation of field observations and remediation activities at the site.

Laboratory and field screening results indicate that only a minor amount of soil contaminated above the 10 mg/kg (ppm) Wisconsin Department of Industry, Labor and Human Relations (WDILHR) standard for petroleum contaminated soil remains at the site. Laboratory analyses of 21 of 22 soil samples collected from the excavation walls and floor indicate that soil impacted by TPH above 10 mg/kg has been removed from all but one localized area of the excavation.

Chemical analyses of post-treatment samples collected from thermally treated soil indicate that the soil has been successfully remediated to levels below the 10 mg/kg WDILHR standard.

Groundwater was encountered during the excavation operations at a depth of 11.0 to 14.0 feet below ground surface (bgs). Because field screening and laboratory analyses of samples collected during a previous investigation indicated that petroleum components intercepted the groundwater table, the potential impact to groundwater must be further investigated.

After completing the Environmental Assessment for the Serigraph, Inc. site, Aqua-Tech, Inc. recommends the installation of four groundwater monitoring wells and groundwater sampling per Wisconsin Department of Natural Resources (WDNR) analytical protocols. Aqua-Tech, Inc. recommends no additional investigation or corrective action for the approximately 30 yards of impacted soil that remains at the site. Field screening of the excavation with a PID and results of laboratory analyses of samples collected from the excavation indicate that the impacted soil was removed from the site to the extent possible and treated.

보는 사람이 가는 다른 사람들이 하는 사람들은 사람이 있는 사람이 되었다면 사고 다음을 하는 것 같다. 그 없는 것 같다.

#### 2.0 SITE BACKGROUND

#### 2.1 Introduction

This section includes information collected at the site during previous environmental investigations.

## 2.2 Summary of Previous Investigations

Aqua-Tech, Inc. conducted a Phase III Environmental Assessment at the site on February 1, 1991. The assessment included the completion of nine soil borings and collection of subsurface soil samples within and around the location of the former aboveground storage tank (AST) complex. The purpose of the borings was to delineate the extent of petroleum contamination associated with the former petroleum distribution center.

Results of the Phase III assessment indicated that approximately 3,000 to 4,000 cubic yards of gasoline and diesel fuel impacted soil existed at the site at a depth interval of 1.0 to 11.0 feet. The majority of contamination appeared to be located within and down slope of the former ASTS.

#### 3.0 SITE ASSESSMENT PROCEDURES AND FIELD OBSERVATIONS

#### 3.1 Introduction

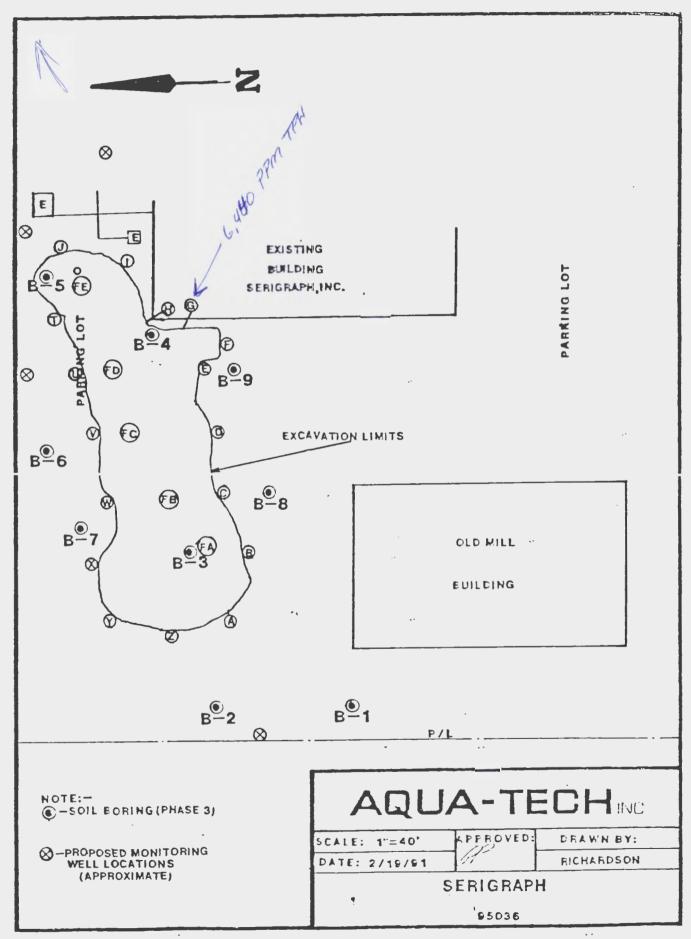
This section outlines procedures and observations of the Environmental Assessment at the Serigraph, Inc. site in West Bend, Wisconsin. Individual subsections address specific assessment activities including field observations, sampling procedures, and chain of custody procedures.

#### 3.2 Excavation and Field Observations

Between June 11, and July 9, 1991, Peter E. Pavalko of Aqua-Tech, Inc. supervised the excavation and thermal desorption treatment of impacted soil at the site. All soil was excavated and treated on-site by CleanSoils, Inc., New Brighton, Minnesota. Mr. Tom Ravn, Serigraph, Inc., Environmental Engineer, was also present during the majority of the excavation activities.

The excavation began near the location of boring B-3 (Phase III Assessment) and was generally enlarged to the east. All overlying asphalt was removed, stockpiled, and later transported to Northwest Asphalt for recycling. All excavated soil was sorted through a two inch screen prior to treatment to remove cobbles and boulders. Approximately 500 tons of cobbles and boulders were sorted from the soil. This material was eventually returned to the excavation as backfill.

One randomly selected soil sample per 15 tons of impacted soil excavated from the site was screened for VOCs with a calibrated PID. The excavated material was screened to confirm the excavation and treatment of impacted soils only. PID readings of the excavated material ranged from 1 to 200 ppm. The complete results of field screening of excavated material are presented in Appendix A.



				1
Sample <u>I.D.</u>	Location	<u>Depth</u>	P.I.D.	<u>Date</u>
A	West Wall	8.0'	0	6/13/91
FA	Floor (B-3)	14.0'	0	6/14/91
В	S.Wall 25' East of "A"	8.0′	0	6/14/91
С	S. Wall 25' East of "B"	8.0′	0	6/17/91
FB	Floor 25' N.E. of "FA"	14.0′	0	6/17/91
D	S. Wall 25' East of "C"	8.01	0	6/18/91
FC	Floor 25' N.E. of F.B."	15.0′	0	6/18/91
Z	W. Wall 25' N. of "A"	8.0′	0 .	6/19/91
Y	N.W. Corner Wall 25' N.E. of "Z"	7.0′	0	6/25/91
x	N. Wall 25' East of "Y"	7.0'	0	6/25/91
W	N. Wall 25' East of "X"	7.0'	0	6/25/91
FD	Floor 25' N.E. of F.C.	15.0'	0	6/27/91
E	S. Wall 25' East of "D"	8.Û'	ũ	6/27/91
v	N. Wall 25' East of "W"	8.0′	0	6/27/91
<b>u</b>	N. Wall 25' East of "V"	5.0′	<b>. 0</b>	6/28/91
Н	3' N.W. of Bldg. Corner	4.0	0	6/28/91

Sample <u>I.D.</u>	<u>Location</u>	<u>Depth</u>	P.I.D.	Date
I	S.E. Corner of Excavation	3.0′	0.5	6/29/91
FE	Floor	10.0	0	6/29/91
T	N.Wall 25' East of "U"	4.0'	0	6/29/91
J	N.E. Corner	4.0'	o	6/29/91
F	S. Wall	5.0′	О	7/1/91
G	E. Wall against Building	5.0′	22	7/1/91

The excavation was enlarged until screening of soil samples with a PID collected on a 5.0 to 10.0 foot grid pattern from the walls and floor indicated no VOCs present or until physical barriers (i.e., existing building foundation) were encountered. An area of impacted soil approximately 20 feet long by 3 feet wide against the foundation of the northwest corner of the building was left in place due to the possibility of endangering the structural integrity of the building. Soil from this area produced PID readings of 8 to 22 ppm in the 1.0 to 8.0 foot depth interval.

Groundwater was encountered within the excavation at a depth of 11.0 to 14.0 feet bgs. The depth of the excavation ranged from 10.0 to 16.0 feet bgs. Soil was excavated to a depth 1.0 to 2.0 feet below the level of the top of the groundwater table.

A groundwater recovery well was installed in the east end of the excavation to facilitate possible groundwater remediation activities in the future. The well consisted of a slotted, 12 - inch diameter culvert pipe placed at a depth of 17.0 feet bgs. The excavation around the slotted portion of the pipe was backfilled with number 2 washed stone as filter material. The excavation was backfilled with the thermally treated soil upon laboratory confirmation that the soil had been remediated below 10 mg/kg TPH. Photographs of the excavation are provided in Appendix B.

# Soil Sampling Procedures

Soil samples were collected from the walls and floor of the excavation with the bucket of the backhoe and field screened with a PID (headspace method) for VOCs utilizing methods described in WDNR/WDILHR publication "Closure Assessments for USTs", dated September 1990. The PID measurements

were utilized in directing the excavation to ensure the excavation of contaminated soil only.

A total of twenty-two soil samples were collected for chemical analyses from the walls and floor of the excavation after the PID indicated the removal of contaminated material (except against the foundation of the building). In general, soil samples were collected every 25 feet along the walls of the excavation at a depth of 4.0 to 8.0 feet bgs. Additional soil samples were collected against the foundation of the building in order to better characterize the volume of impacted soil which had to be left in place. Refer to Figure 3-1 for soil sample locations.

Eleven soil samples (PreTr-1 through PreTr-11) were collected and chemically analyzed from excavated material to confirm the remediation of impacted soils only. Because field screening with the PID did indicate the presence of VOCs, one soil sample per 300 tons of soil remediated was collected and analyzed for TPH as diesel fuel.

All samples collected for laboratory analyses from the excavation were packed into clean, four ounce, teflon<sup>TM</sup> lidded jars, and cooled to 4<sup>o</sup>C, and transported to the laboratory for analysis.

#### 3.3 Soil Treatment

All excavated soil was thermally treated by a CleanSoils Thermal Desorber<sup>TM</sup> treatment unit on site. A copy of WDNR Form 4400-121 - Application to Treat or Dispose of Petroleum Contaminated Soil by Thermal Treatment Unit is provided in Appendix C.

Twelve post-treatment soil samples (PostTr-1 through PostTr-12) were collected from the soil after thermal desorption to confirm the remediation of soil to levels below 10

mg/kg TPH. The soil was treated, sampled, and stockpiled in 300 ton increments. No soil was returned to the excavation as backfill until laboratory analyses confirmed TPH levels below 10 mg/kg in the treated material. Analyses of post treatment samples indicated successful remediation except in sample PostTr-9 (2400-2700 ton interval) which indicated a level of 26.3 mg/kg.

Two additional samples, PostTr-9a and PostTr-9b, were collected from the 2400-2700 ton interval of treated, stockpiled soil to verify TPH levels. Both samples confirmed the results obtained from sample PostTr-9, indicating that the soil had not been remediated to levels below 10.0 mg/kg. Consequently, the 2400-2700 ton interval of soil was retreated and sampled (PostTr-9c).

#### 3.4 Chain of Custody Procedures

This section describes procedures used for sample identification and chain of custody. The purpose of these procedures is to ensure security and integrity of the sample from collection through transportation, storage, and analysis.

Sample identification documents are carefully prepared so that sample identification and chain of custody are maintained and sample disposition is controlled. Sample identification documents include:

- \* Field Notebooks
- \* Sample Labels
- \* Chain of Custody Records

Each sample is labeled, chemically or physically preserved, and sealed immediately after collection. To minimize handling of sampling containers, a label is filled out prior to sample collection. The sample label is completed using waterproof ink and then firmly affixed to the sample

container. The sample label provides the following information:

- \* Location
- \* Sample Number
- \* Date and Time of Collection
- \* Analysis Required
- \* Name of Sampler

A chain of custody record is fully completed in triplicate by the Aqua-Tech sampler immediately following sample collection (see Appendix D).

## Transfer of Custody Shipment

The samples are packed into a cooler and are accompanied by the chain of custody record. When transferring samples, the individuals relinquishing and receiving them sign, date, and note the time on the chain of custody record. This record documents sample custody.

#### Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped sample and verifies the sample identification number matches that on the chain of custody record. A copy of the completed chain of custody record is retained by the laboratory until analyses are complete. The record is then transferred to the site file with the analytical results.

#### 4.0 ANALYTICAL PROCEDURES AND RESULTS

#### 4.1 Introduction

This section includes results of chemical analyses of Aqua-Tech collected soil samples from the excavation walls and floor, excavated material, and treated material for total petroleum hydrocarbons. Samples were analyzed at Davy Laboratories, La Crosse, Wisconsin.

### 4.2 Analytical Procedures

Soil samples from the excavation walls and floor were analyzed for TPH as gasoline and diesel fuel. Pre-treatment soil samples were analyzed only for TPH as diesel fuel because earlier assessments at the site indicated diesel to be the predominant petroleum product at the site. Post-treatment soil samples were analyzed only for TPH as diesel fuel because the heavier hydrocarbons are more difficult to destroy by thermal desorption than TPH as gasoline. Analytical methodology are cited on the laboratory data sheets.

Analytical methodology references for each sampling task contain specific quality control (QC) criteria associated with the particular methods. These specific requirements include calibration and QC samples and are described in detail within the methods. Daily performance tests and demonstration of precision and accuracy are required.

## 4.3 Results of Chemical Analyses of Aqua-Tech Collected Samples

Chemical analyses of soil samples collected from the walls and floor of the excavation did not indicate the presence of TPH as gasoline above the 1.0 mg/kg laboratory detection limit.

Chemical analyses of the soil samples collected from the walls and floor of the excavation did not indicate the presence of TPH as diesel fuel above 1.0 mg/kg except against

the foundation of the building. Samples H and G, collected against the building foundation, indicated TPH (as diesel) levels of 2.5 and 6,440 mg/kg, respectively.

Chemical analyses of pre-treatment soil samples confirmed the remediation of impacted soils only. Chemical analyses of post-treatment soil samples confirmed the remediation of all thermally treated soil to levels below 3.0 mg/kg TPH.

Tables 4-1, 4-2, and 4-3 contain compiled laboratory results from Aqua-Tech, Inc. collected soil samples. Original laboratory results are provided in Appendix D. All TPH concentrations were calculated on a dry weight basis as required by WDILHR.

#### TABLE 4-1

#### CHEMICAL ANALYSES OF EXCAVATION SOIL SAMPLES SERIGRAPH, INC.

# WEST BEND, WISCONSIN

DATE COLLECTED: JUNE 11 - JULY 9, 1991

Sample Number	Depth (Feet)	Total Petroleum Hydrocarbons <sup>1</sup> mg/kg <sup>2</sup>	Total Petroleum Hydrocarbons <sup>3</sup> Limits mg/kg	Maximum Photoioniza- tion Meter Readings (ppm)
A	8.0	ND <sup>4</sup>	ND	0
В	8.0	ND	ND	0
С	8.0	ND	ND	0
D	8.0	ND	ND	0
E	8.0	ND	ND	0
F	5.0	ND	ND /	Ô
G	5.0	ND	6,440.0/	22 )
н	4.0	ND	2.5	•
I	3.0	ND	ND	0.5
J	4.0	ND	ND	0
T	4.0	ND	ND	0
υ	5.0	ND	ND	0
v	8.0	ND	ND	0
W	7.0	ND	ND	0
x	7.0	ND	ND	0 .
Y	8.0	ND	ND	0
Z	8.0	ND	ND	0
FA	14.0	ND	ND	0
FB	14.0	ND	ND	0
FC	15.0	ND	ND	0
FD	16.0	ND	ND	0
FE	10.0	ND	ND	0

Comparable to gasoline.

3 Comparable to diesel fuel.

<sup>2</sup> All results reported on a dry weight basis.

Not detected above the 1.0 mg/kg laboratory detection level. Ten mg/kg (ppm) is the maximum level of petroleum contamination allowed in soil before remediation is recommended by the Wisconsin Department of Industry, Labor and Human Relations (WDILHR).

TABLE 4-2

# CHEMICAL ANALYSES OF PRE-TREATMENT SOIL SAMPLES

# SERIGRAPH, INC.

# WEST BEND, WISCONSIN

DATE COLLECTED: JUNE 11 - JULY 9, 1991

Sample	Sample Collected at Tons Excavated	Total Petroleum Hydrocarbons as Diesel Fuel (mg/kg) <sup>1</sup>
PreTr-1	150	1,330.0
PreTr-2	360	5.84
PreTr-3	705	281.0
PreTr-4	1,000	165.0
PreTr-5	1320	83.2
PreTr-6	1740	28.8
PreTr-7	1950	10.8
PreTr-8	2235	199.0
PreTr-9	2550	4,830
PreTr-10	2865	1,720.0
PreTr-11	3150	19.2

All results reported on a dry weight basis.

TABLE 4-3

# CHEMICAL ANALYSES OF POST-TREATMENT SOIL SAMPLES

## SERIGRAPH, INC.

#### WEST BEND, WISCONSIN

DATE COLLECTED: JUNE 11 - JULY 9, 1991

Sample	Sample Collected at Tons Treated	Total Petroleum Hydrocarbons as Diesel Fuel (mg/kg) <sup>1</sup>
PostTr-1	171.50	ND <sup>2</sup>
PostTr-2	435.35	ND
PostTr-3	747.30	ND
PostTr-4	1090.00	ND
PostTr-5	1445.00	ND
PostTr-6	1653.15	ND
PostTr-7	1944.57	ND
PostTr-8	2224.50	ND
PostTr-9	2483.40	26.3
PostTr-9a	2400-2700 <sup>3</sup>	23.0
PostTr-9b	2400-2700 <sup>3</sup>	45.8
PostTr-9c	2400-27004	ND
PostTr-10	2865.62	ND
PostTr-11	3145.50	2.9
PostTr-12	3200.00	ND

All results reported on a dry weight basis.

Not detected above the 1.0 mg/kg laboratory detection limit.

<sup>3</sup> Collected from the 2400-2700 ton stockpile of treated soil.

<sup>4</sup> Collected from the 2400-2700 ton interval after being thermally treated for the second time.

#### 5.0 DISCUSSION

#### 5.1 Introduction

This section discusses data and information concerning the remediation of petroleum impacted soil associated with the aboveground storage tanks formerly located at the Serigraph, Inc. site.

#### 5.2 Soil

Approximately 3,267 tons of petroleum impacted soil were excavated from the site and remediated by thermal desorption. After the removal of impacted soils, PID screening of the excavation floor and walls did not detect the presence of volatile organic compounds except adjacent to the foundation of the building. Field screening of soil against the foundation of the building produced PID readings in the 8 to 22 ppm range.

Laboratory analyses of samples collected from the floor and walls of the excavation confirm that all soil contaminated by TPH above the 10 mg/kg was removed except for a localized area against the foundation of the building. Laboratory analyses of sample G, collected from soil against the foundation of the building, indicated a TPH level of 6,440.0 mg/kg. It is estimated that approximately 20 to 30 cubic yards of soil contaminated above the 10 mg/kg WDILHR standard for TPH remains in this location.

All impacted soil excavated from the site was thermally treated on site. Laboratory analyses of post-treatment soil samples indicate that the soil has been successfully remediated. No TPH as diesel fuel was detected above the 3.0 mg/kg in soil that was treated and used as backfill.

#### 5.3 Groundwater

Petroleum constituents appeared to intercept the groundwater at a depth of 11.0 to 14.0 feet bgs. No groundwater samples were collected from the excavation. The potential for petroleum impacted groundwater does exist and will require additional investigation.

#### 6.0 RECOMMENDATIONS

After completing the Environmental Assessment for the Serigraph, Inc. site, Aqua-Tech, Inc. recommends the installation of four groundwater monitoring wells and groundwater sampling per WDNR analytical protocol. The proposed locations of the four monitoring wells are presented in Figure 3-1.

Field screening of the excavation with a PID and results of laboratory analyses of samples collected from the excavation indicate that the contaminated soil was removed from the site to the extent practicable. Laboratory results indicate that the contaminated soil has been remediated to levels below WDILHR standards. The approximately 30 cubic yards of impacted soil located against the foundation of the building which could not be excavated does not constitute a significant threat to the environment, human health, or safety. Aqua-Tech, Inc. suggests that the remaining contamination be left in place and allowed to degrade naturally.

APPENDIX A

	SERIGRAPH PID SCREENING OF EXAVATED MATERIAL 1 PID PER 15 TONS				
	Sample Collected at tons	PID (ppm)	Depth	Approximate Location	
6-13-91	15	45	6–7	10' W of B-3	
	30	67	7- 8	10' W of B-3	
	45	20	6.0	12' W of B-3	
	60	15	8.0	@ loc. of B-3	
6-14-91	75	18	8- 10	2' E of B-3	
	90	50	5.0	8' NW of B-3	
	105	20	5.0	5' NE of B-3	
	120	35	5- 7	8' N of B-3	
	135	40	9.0	10' NE of B-3	
	150	25	8.0	4' S of B-3	
	165	15	8.0	4' SE of B-3	
	180	5	5-8	11' NE of B-3	
	195	5	10-12	12' NE of B-3	
	210	15	8-10	12' NE of B-3	
	240	8	10-11	13' NE of B-3	
	255	11	7–8	14' NE of B-3	
	270	6	5-6	14' E of B-3	
	285	1	7–8	10' SE of B-3	
	300	22	10-11	14' E of B-3	
	315	12	7-9	15' E of B-3	
	330	7	7-8	35' N of B-8	
	345	4	9–11 .	35' N of B-8	
	345	6	11.0	35' N of B-8	

	EXCAVATED MATERIAL					
		Sample Collected at tons	PID (ppm)	Depth	Approximate Location	
6	-15-91	375	8	5-10	16' NE of B-3	
		390	10	5-10	17' NE of B-3	
		405	22	5–10	18' NE of B-3	
		420	40	5-10	19' NE of B-3	
		435	35	5–10	20' NE of B-3	
		450	18	5-10	21' NE of B-3	
		465	22	5-10	22' NE of B-3	
<u> </u> _		480	37	5-10	23' NE of B-3	
		495	18	5-10	24' NE of B-3	
		510	21	5-10	25' NE of B-3	
		525	150	7–10	60' N of B-8	
<u> </u>		540	50	6-10	61' N of B-8	
		555	30	3-4	60 N' + 5 East of B-8	
		570	40	5-8	60 N' + 5 East of B-8	
		585	10	5-8	26' ENE of B-8	
		600	6	8-10	35' NE of B-8	
П		615	52	8-10	40' W of B-4	
		630	22	3-4	39' W of B-4	
1_		645	8	7-10	38' W of B-4	
		660	40	7–8	37' W of B-4	
		675	10	10.0	40' NE of B-8	
		690	12 .	10.0	40' NE of B-8	
		705	110	6–9	65' NE of B-8	
		720	8	3-5	40' W of B-4	
		735	2	3–7	30' NE of B-8	

	EXCAVATED MATERIAL					
	Sample Collected at tons	PID (ppm)	Depth	Approximate Location		
	750	3	10.0	32' NE of B-8		
	765	7	6.0	33' NE of B-8		
	780	100	7–10	39' W of B-4		
	795	200	8-9	38' W of B-4, + 10' N of B-4		
6-18-91	810	28	5-6	20' N of B-3		
	825	15	7-10	22' NE of B-3		
	840	4	8-11	38' SW of B-4		
	855	3	7–10	40' SW of B-4		
	870	10	10-11	40' SW of B-4		
	885	18	6–8	40' W of B-4		
•	900	16	7-9	40' W of B-4		
	915	24	10-11	40' W of B-4		
	930	8	7-10	39' W of B-4		
	945	3	6–8	39' SW of B-4		
	960	5	8-11	38' SW of B-4		
	975	30	5-10	38' W of B-4		
	200	25	10-12	38' W of B-4		
	1005	50	10-12	39' W of B-4		
	1020	10	57	39' W of B-4		
	1035	40	3-10	38' W of B-4		
	1050	35	6–11	39' W of B-4		
	1065	3	3-7	37' W of B-4		
	1080	12	6–8	38' SW of B-4		
	1095	15	8-10	38' SW of B-4		
	1110	29	7-10	37' NW of B-4		
	1125	15	5-10	37' W of B-4		
	1140	3	6–9	37' SW of B-4		

	EXCAVATED MATERIAL					
	Sample Collected attons	PID (ppm)	Depth	Approximate Location		
	1155	22	10.0	36' W of B-4		
	1170	40	6-8	36' NW of B-4		
	1185	15	3–6	35' W of B-4		
	1200	52	3–8	33' NW of B-4		
	1215	50	1.0	32' NW of B-4		
	1230	120	10.0	31' W of B-4		
•	1245	70	8.0	20' N of B-3		
	1260	50	6–7	20' N of B-3		
	1275	50	10-11	20' N of B-3		
	1290	130	7–10	20' NW of B-3		
	1305	110	6-8	20' NW of B-3		
	1320	35	6-9	20' NW of B-3		
	1335	25	5-10	21' NW of B-3		
	1350	50	3-8	21' N of B-3		
	1365	10	6-9	22' NW of B-3		
	1380	32	8-11	23' NW of B-3		
6-20-91	1395	40	6-8	40' NW of B-3		
	1410	38	1-5	41' N of B-3		
	1425	19	6-8	38' N of B-3		
	1440	16	0-5	36' N of B-3		
	1455	22	4-8	35' N of B-3		
	1470	18	8-10	37' NW of B-3		
	1485	3	10-12	30' N of B-3		
	1500	40	7-9	29' N of B-3		
	1515	25	6-8	38' N of B-3		
	1530	25	6-8	39' N of B03		

EXCAVATED MATERIAL				
	Sample Collected at tons	PID (ppm)	Depth	Approximate Location
	1545	22	6-8	40'N of B-3
	1560	32	5-10	38' NE of B-3
	1575	18	4-8	36' N of B-3
	1590	10	0-3	22' NE of B-3
	1605	12	6–9	20' NE of B-3
	1620	4	0-2	30' N of B-3
	1635	17	6-10	28' NE of B-3
	1650	21	10-11	30' N of B-3
	1665	6	4-8	28' N of B-3
	1680	8	6-8	31' N of B-3
	1695	12	8-10	20' NE of B-3
	1710	22	4-7	22' NE of B-3
6-24-91	1725	3	2-10	22' NE of B-3
	1740	20	5-10	28' N of B-3
	1755	7	6-8	20' NE of B-3
	1770	12	5-10	22' N of B-3
	1785	4	6-8	23' N of B-3
	1800	18	10.0	35' N of B-3
	1815	12	8.0	35' NW of B-3
	1830	4	7–10	38' NW of B-3
	1845	.2 4.6	5-10	37' NW of B-3
	1860	2	6-8	38' N of B-3
	1875	18	6–8	33' N of B-3
	1890	15	7–10	33' N of B-3
	1905	25	3-8	12' NE of B-3
	1920	12	6-8	22' N of B-3
	1935	5	8-10	27' N of B-3

			EXCAVATED MATERI	AL	
		Sample Collected at tons	PID (ppm)	Depth	Approximate Location
	6-25-91	1950	18	8-10	20' NE of B-3
		1965	4	5-7	21' NE of B-3
		1980	4	4-7	22' NE of B-3
		1995	2	8-10	22' NE of B-3
		2010	20	2-5	23' NE of B-3
		2025	15	7–10	23' NE of B-3
		2040	10	6-8	24' NE of B-3
İ		2055	12	8-10	24' NE of B-3
		2070	16	3–5	25' NE of B-3
		2085	14	6–10	25' NE of B-3
		2100	8	6–10	26' NE of B-3
		2115	4	3–5	26' NE of B-3
		2130	20	8-10	60' NW of B-4
		2145	13	8.0	45' NW of B-4
		2160	12	8-10	45' NW of B-4
		2175	30	7-9	50' NW of B-4
		2190	25	5-10	50' NW of B-4
j	6-26-91	2205	10	5–10	40' NW of B-4
		2220	32	4-5	40' NW of B-4
		2235	32	8-10	40' NW of B-4
		2250	7 404 1 475 1	2-3	38' NW of B-4
		2265	2	12	37' NW of B-4
		2280	13	3–5	37' NW of B-4
		2295	25	0-3	37' NW of B-4
		2310	40	0-3	36' NW of B-4
		2325	25	5–8	36' NW of B-4
		2340	22	8-12	36' NW of B-4
		2355	18	6–8	39' NW of B-4

	EXCAVATED MATERIAL				
	Sample Collected at tons	PID (ppm)	Depth	Approximate Location	
	2370	25	3-8	35' NW of B-4	
	2385	35	8-11	35' NW of B-4	
	2400	12	8-10	34' NW of B-4	
	2415	8	5-10	33' NW of B-4	
	2430	15	3-5	33' NW of B-4	
	2445	4	3-6	32' NW of B-4	
	2460	16	6-8	31' NW of B-4	
	2475	10	6-10	30' NW of B-4	
	2490	22	8-10	29' NW of B-4	
	2505	12	3-5	28' NW of B-4	
	2520	15	4-6	30' NW of B-4	
	2535	20	3-5	30' NW of B-4	
	2550	60	1-2	10' N of B-4	
	2565	90	2-3	10' N of B-4	
	2580	55	3.0	10' N of B-4	
	2595	18	3.0	12' N of B-4	
6-27-91	2610	4	2-4	22' W of B-4	
	2625	18	6–8	22' W of B-4	
	2640	3	10-11	22' W of B-4	
	2655	35	6–10	20' NW of B-4	
	2670	50 -	10-11	20' NW of B-4	
	2685	7	1-2	15' SW of B-4	
	2700 .	30	2-5	15' NW of B-4	
	2715	5	12-14	10' SW of B-4	
	2730	10	8-10	20' NW of B-4	
	2745	50	5-6	18' NW of B-4	
	2760	45	6-10	8' NW of B-4	

EXCAVATED MATERIAL				
	Sample Collected attons	PID (ppm)	Depth	Approximate Location
	2775	18	0-3	17' NW of B-4
	2790	90	3	10' NW of B-4
	2805	75	2	10' N of B-4
	2820	60	4-7	10' N of B-4
	2835	70	6	10' NW of B-4
	2850	12	12.0	10' NW of B-4
	2865	55	6.0	10' NW of B-4
	2880	45	8.0	12' NW of B-4
	2895	5	10.0	12' NW of B-4
	2910	50	13	12' NW of B-4
	2925	40	12	12' NW of B-4
	2940	6	1-3	28' NW of B-4
	2955	7	1-3	26' NW of B-4
	2970	10	1-3	25' N of B-4
	2985	20	4.0	8' SW of B-4
	3000	10	10	6' SW of B-4
	3015	35	7	8' NW of B-4
	3030	50	11	10' NW of B-4
	3045	7	2-3	30' NW of B-4
	3060	3	4-5	30' NW of B-4
	3075	6	1-2	30' N of B-4
	3090	2	2-5	30' N of B-4
	3105	10	4-6	10' N of B-4
	3120	15	6–8	8' NW of B-4
	3135	60	3.0	3' SW of B-4
	3150	12	3.0	2' NW of B-4
	3165	40	3-4	10' S of B-4

П

EXCAVATED MATERIAL				
	Sample Collected at tons	PID (ppm)	Depth	Approximate Location
	3180	50	5–6	2' NW of B-4
	3195	19	2.0	8' S of B-4
	3210	25	2.0	18' SW of B-4
	3225	8	2-3	20' NE of B-4
	3240	20	2-3	22' NE of B-4
	3255	10	2-3	22' NE of B-4
	3270	2	5.0	20' NE of B-4

APPENDIX B

#### FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Serigraph - 95036

PAGE 1 OF 3

DATE: 6/15/91

TIME: 10:00 a.m.

DIRECTION OF PHOTOGRAPH:

West

WEATHER CONDITIONS:

0

PHOTOGRAPHED BY:

Peter Pavalko

SAMPLE ID:

(If Applicable):

FA+A+B(Approximate)

DESCRIPTION: Pictured is the southwest corner of the excavation.

DATE: 6/17/91

TIME: 12:00 p.m.

DIRECTION OF PHOTOGRAPH:

South

WEATHER CONDITIONS:

PHOTOGRAPHED BY:

Peter Pavalko

SAMPLE ID: (If Applicable):

C+D (Approximate)

DESCRIPTION: Pictured is a portion of the south wall of excavation.

#### FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Serigraph - 95036

PAGE 2 OF 3

DATE: 6/18/91

TIME: 10:00 a.m.

DIRECTION OF PHOTOGRAPH:

West

WEATHER CONDITIONS:

0

PHOTOGRAPHED BY:

Peter Pavalko

SAMPLE ID: (If Applicable):

FB+E (Approximate)



DESCRIPTION: Pictured is the southern extent of the excavation. The excavation

has not yet been extended to the north at the time of this photograph.

DATE: 6/19/91

TIME: 4:00 p.m.

DIRECTION OF PHOTOGRAPH:

Northwest

WEATHER CONDITIONS:

C

PHOTOGRAPHED BY:

Peter Pavalko

SAMPLE ID: (If Applicable):

Z+Y (Approximate)



DESCRIPTION: Pictured is the west wall of the excavation. The soil exit auger

had to be dismantled in order to extend the excavation to the west.

#### FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Serigraph - 95036

PAGE 3 OF 3

DATE: 6/29/91

TIME: 2:30 p.m.

DIRECTION OF PHOTOGRAPH:

Northeast

WEATHER CONDITIONS:

Sunny

0

PHOTOGRAPHED BY:

\_Peter\_Pavalko\_

SAMPLE ID: (If Applicable):

T,J,I,H, FE



DESCRIPTION: Pictured is the east end of the excavation. The approximate location

of soil samples are shown. At the time this photo was taken not all of the

samples had been collected.

DATE: <u>7/1/91</u>

TIME: 10:30 a.m.

DIRECTION OF PHOTOGRAPH:

Southeast

WEATHER CONDITIONS:

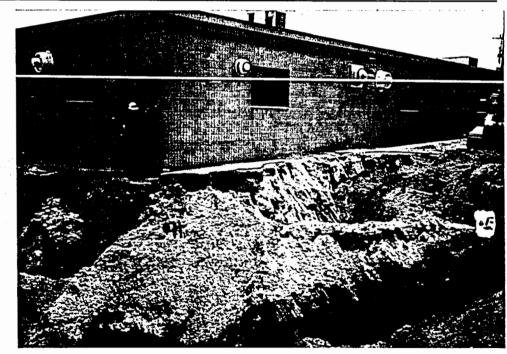
Sunny

0

PHOTOGRAPHED BY:

Peter Pavalko

SAMPLE ID: (If Applicable):



DESCRIPTION: This picture was taken before the excavation and sampling was

complete. Soil sample locations depicted are approximate.

APPENDIX C

# APPLICATION TO TREAT OR DISPOSE OF PETROLEUM CONTAMINATED SOIL ASPHALT PLANT OR OTHER TYPE OF THERMAL TREATMENT UNIT

Form 4400-121

This form is required by the Department of Natural Resources for leaking underground storage tank sites (Wis. Adm. Code NR 419). Failure to complete and submit this form may lead to violations of subchapters III and IV of ch. 144 Wis. Stats. and may result in forfeitures of not less than \$10 or more than \$25,000 for each violation, pursuant to ss. 144.426, 144.469, 144.74 (1), and 144.99, Wis. Stats., or fines of not less than \$100 or more than \$150,000 or imprisonment for not more than 10 years, or both, pursuant to s. 144.74 (2), Wis. Stats. Each day of a continuing violation constitutes a separate violation. Department approval of this form is required prior to site remediation, except for soils to be buried in landfills.

Site/Facility Name SERIGRAPH, INC.		Site I.D. # (for DNR use only)	
Site Address		Contact Name	<i>?</i>
760 INDIANA AVENUE  City, State, Zip Code  WEST BEND, WI 53095		TOM RAVIN  1/4, 1/4, Section, Township, and Range  SE SW 13 11N 19E	
The information on this form is an Signature	curate to the best of my knowledge	ge.  Telephone Number (include area code)  414-335-7343	t was treet
Consulting Firm	Contact	Telephone Number	
AQUA-TECH, INC.	PETER PAVALKO	414-284-5746	
Tons/cubic yards (circle one)  Type of Petroleum Contamination (Circle):  Gasoline Diesel Fuel/#2 Fuel Oil?  Other MOSTLY DIESEL FUEL		Soil Type (USCS) x_sand (SP, SW) silty/clayey sands (SM, SC) siit (ML, MH, OL) clay (Cl, CH, OH) gravel (GC, GM, GP, GW) peat (PT)	
registers contamination on soil shown to be co	OR one laboratory analysis per 19 intaminated during the site investigation of BOTH FIELD SCREEN	sis per 300 yds <sup>3</sup> of contaminated soil when the PII 00 yds <sup>3</sup> when the PID does not register contaminating attigation/excavation or stockpiling. PLEASE ATTENING AND ANALYSES, IN ADDITION TO PROVIDE	ation ACH A
Total Benzene in soil to be re	mediated (attach calculations)	3.36lbs	
Total Petroleum Hydrocarbons	s in soil to be remediated (atta	ach calculations) 41,311lbs	
Total TPH asDIESEL_FUEL			

NOTE: This calculation can also be used to estimate TPH emissions by substituting TPH concentration (ppm or mg/kg) for "a." It may

also be used to calculate VOCs.

b = amount of contaminated soil in yds<sup>3</sup>

3.91:1.2P

Part II: Proposed	Treatment Facility
Name of Plant CLEAN SOILS THERMAL TREATMENT	Plant number and Model SRU-101
Contact L'AVE KRESS	DNR Facility I.D. No. 999773720
	AIR POLLUTION CONTROL PERMIT NO. 89-POY
Address 760 INDIANA AVENUE, WEST BEND, WI (or location of portable plant)	Distance to Nearest Residence/Business 250 FEET
LEAVE BLANK - DEPARTMENT OF	NATURAL RESOURCES USE ONLY
Application Concurrence:	
Air Management Millow G. Haffer * Report Ma.	11 1961 EA Date May 10,1991
Air Management Michael Steff * Report Mc.  Project Manager Apply J. Fischer	Date MAY 10, 199/
Comments:	
AFTER PROCESSI	THERMAL UNIT PROCESSING THE CONTAMINATED SOING IS COMPLETED
WDNR Air Quality permit Number	Actual Volume of Soil Treated (tons/cubic yards)
Date of transport to plant	Date of treatment
Transporter Name	Transporter License Number
Circle One: Roasted and Incorporated Roaste	d Only
Total Benzene emissions in pounds for this batch (apply 50% destru	oction factor if no after burner is used)
Benzene emissions to date for this plant (including this batch) for the	nis calendar year
Signature of Treatment plant representative	Telephone Number at Plant
POST BURN SAMPLE RESULTS: COMPLETE ONLY F	FOR SOILS NOT INCORPORATED!
(One representative sample for each 100 cubic yards-not composites	5)
Sample Number	
ТРН	
DNR APPROVAL IS REQUIRED BEFORE USING AS COMM	ION FILL
Date of backfilling or use as common fill	Location of fill site SE 1/4 SW 1/4 13 S 11NT 19E R

DIRECTIONS: 1) Complete parts I and II. 2) Submit the application to the DNR project manager for approval. 3) Have the treatment facility complete part III of the approved form after the soil has been treated. 4) Return the ORIGINAL form to the DNR project manager. 5) Keep a copy for your files.

# **BENZENE AND TPH CALCULATIONS**

## **TOTAL BENZENE:**

Benzene not detected at the 0.40 ug/g laboratory detection limit using 0.40 ug/g for calculation purposes.

$$\frac{0.40}{1,000,000}$$
 x 2800 lbs/yd<sup>3</sup> x 3000 = 3.36

## TOTAL TPH AS DIESEL:

Mean TPH in samples in which TPH was detected = 4,918 ppm

NOTE: Samples were collected from the most contaminated ares within the boring and are not <u>representative</u> of the materials as a whole.

$$4918$$
 x 2800 lbs / yd<sup>3</sup> x 3000 = 41,311.20 lbs 1,000,000

APPENDIX D 

# **DAVY LABORATORIES**

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



Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 19, 1991 Client No. 10645 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Six soil samples

June 18, 1991
Three soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

gasoline and diesel and the other three of the samples as diesel. All the soil

samples to be analyzed for total solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

Jonecieu:

Collected By:
Collection Location:

Date Delivered: Delivered By: June 13 and 14, 1991

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

June 18, 1991

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Site
18521	A
18522	FA
18523	В
18524	Pre-Tr-1
18525	Pre-Tr-2
18526	Pos-Tr-1

# METHODOLOGY:

#### TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

# **DAVY LABORATORIES**

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



#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)	TPH as GASOLINE ppm(a)
18521-A	85.3	<1.0	<1.0
18522-FA	78.0	<1.0	<1.0
18523-B	83.3	<1.0	<1.0
18524-PreTr-1	88.5	1,330	
18525-PreTr-2	86.4	5.84	
18526-PosTr-1	97.6	<1.0	

< means "less than" a - calculated on a dry weight basis Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A Harris Director

The laboratory analysis reported was determined in accordance with current methodology. The results are only representative of the samples received; conditions can be expected to vary at different times and under different sampling conditions.

PAGE / OF \_\_\_\_ CHAIN UF CUSTOUT RECURD AQUATECHING. Use Black Ink Only, Press Hard 140 S. Park St. Port Washington, WI 53074 Filtered (Yes/No) Preserved (Code) Refrigerated (Yes/No) PROJ. NO PROJECT NAME 95036 SERIGRAPH Sample type (Grab/Composite) Charles SAMPLERS: (Signature) Number Sample sources (WW, GW, DW, other) Preservation Code: A - None D - NaOl-B - HNO3 E - HCL C - H,SO4 F - \_\_\_\_ ATI Yr7/ **Analysis** Sample Station ID Lab No. Date Time Comments: 1727 Depth 18521 10/13 6:00% 18522 FA 6/14 5:000 () 18523 16/14 16:00p. 18524 PRETR-1 NIA 18525 POSTTR-1 18526 Relinquished by: (Signature) Date / Time Date / Time Received by: (Signature) Report to: Name Relinquished by: (Signature) Date / Time Received by: (Signature) Date / Time Street State \_\_\_\_ City Received for Laboratory by: (Signature) Phone no. ( Date / Time Relinquished by: (Signature) Fax no. ( Remarks: SAMPLESMIA" BAND POSTTR-1 ARE TOBERUN
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Receipt temp

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



Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 19, 1991 Client No. 10644 Project No. 95036

Attn: Mr. Peter Pavalko

## INTRODUCTION:

Number of Samples Received:

Date Received:

One soil samples June 18, 1991

Analysis Requested:

Total Petroleum Hydrocarbons (TPH) as diesel and for total solids.

# SAMPLE IDENTIFICATION:

Date Collected:

June 17, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc.

Collection Location:

Project: 95036 - Serigraph

Date Delivered:

June 18, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the sample was given the following identification number:

Davy Lab Number

Sample Site

18520

Pos-Tr-2

# METHODOLOGY:

# TPH ANALYSIS

The soil sample was analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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



# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO. TOTAL SOLIDS(%)

TPH as DIESEL ppm(a)

18520-PosTr-2

85.3

<1.0

< means "less than"

a - calculated on a dry weight basis Minimum Detection Limit = 1.0 ppm

Submitted by:

**DAVY LABORATORIES** 

Paul A. Harris, Director

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

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 LABORATORIES:

Division of Davy Engineering Co.

June 20, 1991 Client No. 10651 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Three soil samples June 19, 1991

Three soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

diesel and two of the samples to be analyzed for gasoline. All of the samples were

to be analyzed for total solids.

## SAMPLE IDENTIFICATION:

Date Collected:

June 17, 1991

Collected By:
Collection Location:

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Date Delivered:

June 19, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy	Lat	) N	um	ber

Sample Site

18539 18540 C FB

18541

PreTr-3

#### METHODOLOGY:

# TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

## TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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



Division of Davy Engineering Co.

# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL. ppm(a)	TPH as GASOLINE ppm(a)
18539-C	79.5	<1.0	<1.0
18540-FB	81.2	<1.0	<1.0
18541-PreTr-3	83.0	281	

< means "less than"</p>
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

GROCE LABO	TE	CH	Aqua 140	PORATE Tech, li S. Park	E nc. St., Port Washington, WI 746 FAX (414) 284-(	53074	CHAIN (	_ <b>-</b> OF CUS	тог	OY F	REC	OR	D				
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115 South 6th Street P.O. Box 2076 La Crosse, WI 54602-2076 (608) 782-3130



Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 21, 1991 Client No. 10651 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Four soil samples June 20, 1991

All soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

diesel and two of the samples to be analyzed for gasoline. All of the samples were

to be analyzed for total solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

June 18, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc.

Collection Location:

Project: 95036 - Serigraph

Date Delivered:

June 20, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Site
18553	PreTr-4
18554	D
18555	FC
18556	PosTr-3

# METHODOLOGY:

# TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

# TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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



Division of Davy Engineering Co.

# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)	TPH as GASOLINE ppm(a)
18553-PreTr-4	83.9	165	
18554-D	80.9	< 1.0	< 1.0
18555-FC	84.5	< 1.0	< 1.0
18556-Post-Tr-3	100	< 1.0	

< means "less than"
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

**DAVY LABORATORIES** 

Paul A. Harris, Director

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



Division of Davy Engineering Co.

140 South Park Street Port Washington, Wisconsin 53074 June 25, 1991 Client No. 10671 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Aqua-Tech, Inc.

Number of Samples Received:

Date Received:

Analysis Requested:

Three soil samples June 21, 1991

Three soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

diesel and two of the samples to be analyzed for gasoline. All of the samples were

to be analyzed for total solids.

SAMPLE IDENTIFICATION:

Date Collected:

Collected By: Collection Location:

Date Delivered: Delivered By:

June 19, 1991

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

June 21, 1991

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number

Sample Site

18578 18579 Pre-Tr-5

10500

# METHODOLOGY:

#### TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak

areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

# TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)	TPH as GASOLINE ppm(a)
18578-PreTr-5	86.4	83.2	
18579-Z	81.9	<1.0	<1.0
18580-Y	83.4	<1.0	<1.0

< means "less than"</p>
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

AQUA-TECHING.

CHAIN OF CUSTODY RECORD

PAGE \_\_\_\_OF \_\_\_

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



Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074

June 27, 1991 Client No. 10693 Project No. 95036

Attn: Mr. Peter Pavalko

## INTRODUCTION:

Number of Samples Received:

One soil sample

Date Received:

June 26, 1991

Analysis Requested:

Total Petroleum Hydrocarbons (TPH) as diesel and total solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

June 21, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc.

Collection Location:

Project: 95036 - Serigraph

Date Delivered:

June 26, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the sample was given the following identification numbers

Davy Lab Number

Sample Site

18607

PosTr-4

# METHODOLOGY:

# TPH ANALYSIS

The soil sample was analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

## TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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Aqua-Tech, Inc. June 27, 1991 Page 2

#### **RESULTS:**

The result of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

 SAMPLE
 TOTAL
 TPH as DIESEL

 NO.
 SOLIDS(%)
 ppm(a)

 18607-PosTr-4
 100
 <1.0</td>

< means "less than"</p>
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAYY LABORATORIES

Paul A. Harris, Director

# AQUA-TECHING

CHAIN OF LUSTODY RECORD

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



Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 27, 1991 Client No. 10694 Project No. 95036

Attn: Mr. Peter Pavalko

## INTRODUCTION:

Number of Samples Received:

Date Received:

One soil sample June 26, 1991

Analysis Requested:

Total Petroleum Hydrocarbons (TPH) as diesel and total solids.

# SAMPLE IDENTIFICATION:

Date Collected:

June 22, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc.

Collection Location:

Project: 95036 - Serigraph

Date Delivered:

June 26, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the sample was given the following identification number:

Davy Lab Number

Sample Site

18608

PosTr-5

## METHODOLOGY:

# TPH ANALYSIS

The soil sample was analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

# TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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Aqua-Tech, Inc. June 27, 1991 Page 2

## **RESULTS:**

The result of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.

TOTAL

TPH as DIESEL

SOLIDS(%)

ppm(a)

18608-PosTr-5

100

<1.0

< means "less than"
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm</pre>

Submitted by:

**DAYY LABORATORIES** 

Paul A. Harris, Director

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



Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 27, 1991 Client No. 10696 Project No. 95036

Attn: Mr. Peter Pavalko

## INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Two soil samples

June 26, 1991

Total Petroleum Hydrocarbons (TPH) as diesel and total solids.

# SAMPLE IDENTIFICATION:

Date Collected:

June 24, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Collection Location: Date Delivered:

June 26, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Numbers

Sample Site

18611

PreTr-6

18612

PosTr-6

# METHODOLOGY:

# TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the samples were injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

# TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the samples were weighed out and dried to a constant weight.

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



Aqua-Tech, Inc. June 27, 1991 Page 2

# **RESULTS:**

The result of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)
18611-PreTr-6	87.7	28.8
18612-PosTr-6	100	<1.0

< means "less than"</p>
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

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CHAIN OF CUSTODY HECORD

Use Black Ink Only, Press Hard .

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



Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 1, 1991 Client No. 10707 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Four soil samples June 27, 1991

All of the soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

diesel and two of the samples to be analyzed for gasoline. All of the samples were

to be analyzed for total solids.

SAMPLE IDENTIFICATION:

Date Collected:

June 25, 1991

Collected By: Collection Location: Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Date Delivered:

June 27, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number

Sample Site

18651 18652 18653

X PreTr-7 W

18654

PosTr-7

# METHODOLOGY:

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

# TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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Division of Davy Engineering Co.

Aqua-Tech, Inc. July 1, 1991 Page 2

# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)	TPH as GASOLINE ppm(a)
18651-X	91.6	<1.0	<1.0
18652-PreTr-7	81.8	10.8	
18653-W	84.0	<1.0	< 1.0
18654-PosTr-7	100	<1.0	

< means "less than" a - calculated on a dry weight basis Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A Harris Director

CHAIN OF CUSTODY RECORD PAGE / OF / AQUA-TECHING. Use Black ink Only, Press Hard 140 S. Park St. Port Washington, WI 53074 Filtered (Yes/No) Preserved (Code) Containers PROJECT NAME Refrigerated (Yes/No) PROJ. NO Sample type (Grab/Composite) Total Number of SAMPLERS: (Signature) Sample sources (WW, GW, DW, other) Preservation Code: A - None B-HNO3 E-HCL C-H,SO4 F-\_\_\_ ATI Analysis Sample Station ID Lab No. Date | Time HV11 Comments: 78 cloep-Northwall-25eut of "Y" 18 PRETREATMENT 1800-2100+m-950Hm PRETR-7 3:00 6/25 3:30 0 PostTR-7 PostTReatment collectede 1944 from (1800-2100 Relinquished by: (Signature) Received by: (Signature) Date / Time Date / Time Report to: Name Relinquished by: (Signature) Received by: (Signature) Date / Time Date / Time Street City Received for Laboratory by: (Signature) Phone no. ( Relinquished by: (Signature) Date / Time Fax no. ( 1000 Samples received Remarks: 24 HOUR TURNARUNDON X, W, POSTTR-7 Receipt pH Receipt temp

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Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 1, 1991 Client No. 10718 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Three soil samples June 28, 1991

Total Petroleum Hydrocarbons (TPH) as diesel, and total percent solids.

SAMPLE IDENTIFICATION:

Date Collected:

June 26, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc.

Collection Location:

Project: 95036 - Serigraph

Date Delivered:

June 28, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number

Sample Site

18689 18690 18691

PreTr-8 PreTr-9 PosTr-8

METHODOLOGY:

## TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the each sample was injected into a Perkin-Elmer Sigma 2B Gas Chromatograph equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried at 103-105°C.

# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TOTAL PETROLEUM HYDROCARBONS as DIESEL (ppm)a
18689-PreTr-8	88.4	199.0
18690-PreTr-9	94.2	4,830
18691-PosTr-8	100	<1.0

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

Division of Davy Engineering Co.

Aqua-Tech, Inc. July 1, 1991 Page 2

< means "less than"
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

# AQUA-TECHING

# CHAIN OF CUSTODY RECORD

PAGE / OF /

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Division of Davy Engineering Co.

Agua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 2, 1991 Client No. 10719 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Five soil samples

Date Received:

June 28, 1991

Analysis Requested:

All of the soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as diesel and three for gasoline. Additionally, all of the samples to be analyzed for

Comple Cite

Total Percent Solids.

# SAMPLE IDENTIFICATION:

Date Collected:

June 26, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Collection Location:

Daw I oh Number

June 28, 1991

Date Delivered:

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lao Number	Sample Site
18692	FD
18693	PreTr-10
18694	E
18695	V
18696	PostTr-Q

# METHODOLOGY:

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of Diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the each sample was injected into a Perkin-Elmer Sigma 2B Gas Chromatograph equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11 minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained from standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

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Division of Davy Engineering Co.

# **TOTAL SOLIDS**

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was weighed and dried at 103 - 105°C.

## **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below.

SAMPLE NO.	TPH as DIESEL (ppm)a	TPH as GASOLINE (ppm)a	TOTAL SOLIDS %
18692-FD	<1.0	<1.0	83.0
18693-PreTr-10	1,720	<del></del>	84.6
18694-E	<1.0	<1.0	83.8
18695-V	<1.0	<1.0	88.4
18696-PosTr-9	26.3		100

< means "less than" a - calculated on a dry weight basis Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATURIES

Paul A. Harris, Director

AQUA-TECHING

CHAIN OF CUSTODY RECORD

PAGE OF

Use Black ink Only, Press Hard 140 S. Park St. Port Washington, WI 53074 Filtered (Yes/No) Preserved (Code) PRCJ. NG PROJECT NAME Refrigerated (Yes/No) 95036 Sample type (Grab/Composite) SAMPLEBS: (Signature)-Sample sources (WW, GW, DW, other) Preservation Code: B-HN03 C-H,SO4 AT1 Yr\_9/\_ Analysis Lab No. Sampla Station ID Date | Timo Comments: HNu= Frank 16 deep from 5-4) 1/26 1/20 PRETR-10 Pretroutment (2700-3000 tons O 726 22 925 7:15 6/26 2:30 POSTTR-9 MA Relinquished by: (Signature) Received by: (Signature) Date / Time Date / Time Report to: Pavalfor 25/9/13:05 Name Reliant ished by: (Signature) Received by: (Signature) Date / Time Date / Time Street City State Phone no. ( Received for Laboratory by: (Signature) Relinquished by: (Signature) Date / Time Fax no. ( Ramaria: FD, E, V, POSTIR-9 ON 24 HOUR TURNARDUND Rećeipt pH\_ Receipt temp\_

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Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 5, 1991 Client No. 10725

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Five soil samples July 2, 1991

Date Received: Analysis Requested:

Total Petroleum Hydrocarbons (TPH) as diesel and gasoline, plus all samples to

be analyzed for total percent solids.

SAMPLE IDENTIFICATION:

Date Collected:

July 1, 1991

Collected By: Collection Location: Peter Pavalko of Aqua Tech, Inc. Serigraph - Project No. 95036

Date Delivered:

July 2, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Site
18708	PostTr-11 G
18709 18710	F
18711	PosTr-9A
18712	PosTr-9B

#### METHODOLOGY:

The samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11 minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained from standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

## TOTAL SOLIDS ANALYSIS

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was weighed and dried at 103 - 105°C.

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Aqua Tech, Inc. July 5, 1991 Page 2

# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids in the samples are given below:

SAMPLE NO.	SAMPLE SITE	TPH AS DIESEL (ppm)a	TPH AS GASOLINE(ppm)a	TOTAL SOLIDS (%)
18708	PosTr-11	2.9		100
18709	G	6,440	<1.0	94.2
18710	F	<1.0	<1.0	95.7
18711	PosTr-9A	23.0		90.4
18712	PosTr-9B	45.8		88.6

< means "less than"</p>
a - calculated on a "dry weight basis"
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

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

Division of Davy Engineering Co.

Agua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 9, 1991 Client No. 10726 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Eight soil samples

July 2, 1991

Total Petroleum Hydrocarbons (TPH) as diesel and gasoline, plus all samples to

be analyzed for total percent solids.

SAMPLE IDENTIFICATION:

Date Collected:

June 28, 29, 1991

Collected By:

Peter Pavalko of Aqua Tech, Inc. Serigraph - Project No. 95036

Collection Location: Date Delivered:

July 2, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Site
18713	<u>u</u>
18714	PreTr-11
18715	H
19716	PosTr-10
18717	I
18718	FE
18719	T
18720	J

# METHODOLOGY:

The samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11 minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained from standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

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Aqua Tech, Inc. July 9, 1991 Page 2

## TOTAL SOLIDS ANALYSIS

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was preweighed and dried for a given period of time. Following the drying cycle, the sample was reweighed and the percent solids calculated.

# **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids in the samples are given below:

SAMPLE NO.	SAMPLE SITE	TPH AS DIESEL (ppm)a	TPH AS GASOLINE(ppm)a	TOTAL SOLIDS (%)
18713	U	<1.0	<1.0	84.2
18714	PreTr-11	19.2		93.8
18715	H	2.5	<1.0	90.2
18716	PosTr-10	<1.0	· ·	100
18717	I	<1.0	<1.0	90.0
18718	FE	<1.0	<1.0	79.6
18719	T	<1.0	<1.0	88.7
18720	Ī	<1.0	<1.0	91.8

< means "less than" a - calculated on a "dry weight basis" Minimum Detection Limit = 1.0 ppm

Submitted by:

**DAVY LABORATORIES** 

Paul A. Harris, Director

AQUA-TECHING

UHAIN OF COSTODY RECURD

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Use Black Ink Only, Press Hard 140 S Park St. Port Washington, WI 53074 Filtered (Yes/No) Preserved (Code) PROJ. NO PROJECT NAME Refrigerated (Yes/No) SERIGRAPH 95036 Sample type (Grab/Composite) Sample sources (WW, GW, DW, other) SAMPLERS: (Signature) Preservation Code: A - None B-HNO3 E-HCL C-H,SO4 F-\_\_\_ ATI **Analysis** Lab No. Sample Station ID Date | Time Comments: HN4= North well- 5 deep - 25 Earl of V 6/28 12:45 18713 PRETR-1 Metreatment Near B.4 13000-13300+ X 18715 3 NWA CONNER OF building 4 leep POSTTR-10 PostTreatment \$2700-3000tom אוראו 0.5 SECONNEY ax contion-3 dopon wall 729 11:00 Floor- 10 deep East on of excavation 18718 Northwall, 25 E of "U"-4 deep 18719 187200 Relinquished by: (Signature) Date / Time Received by: (Signature) Date / Time Report to: To the Hand he 29/41 3:00 PM Name Received by: (Signature) Relinquished by: (Signature) Date / Time Date / Time 140 S. Park St. City Port Washington State WI Zip 53074 Phone no. (414) 234-5746 Received for Laboratory by! (Signature) Relinquished by: (Signature) Date / Time Fax no. (414) 284-0243 HOUR TURNAROUND ON "H", "H", POSTTR-10, "I", "FE", T, and J. Remarks: Receipt pH \_\_\_\_\_ Receipt temp \_\_\_\_\_

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

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074

Attn: Mr. Randy Igel



Division of Davy Engineering Co.

July 11, 1991 Client No. 10759 Project No. 95036

#### INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Two soil samples

July 10, 1991

Total Petroleum Hydrocarbons (TPH) as diesel, plus all samples to

be analyzed for total percent solids.

#### SAMPLE IDENTIFICATION:

Date Collected: Collected By:

Collection Location:

July 9, 1991

Randy Igel of Aqua Tech, Inc. Serigraph - Project No. 95036

DAVY LAB NO.

SAMPLE SITE

18784 18785 PosTr-12 PosTr-9C

#### METHODOLOGY:

#### THE AS DIESEL

The samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS ANALYSIS

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was preweighed and dried for a given period of time. Following the drying cycle, the sample was reweighed and the percent solids calculated.

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



Aqua Tech, Inc. - Randy Igel July 11, 1991 - Client No. 10759 Page 2

#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids in the samples are given below:

SAMPLE	SAMPLE	TPH AS	TOTAL
NO.	SITE	DIESEL (ppm)a	SOLIDS (%)
18784	PosTr-12	<1.0	100
18785	PosTr-9C	<1.0	100

< means "less than"</p>
a - calculated on a "dry weight basis"
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

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Receipt temp

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622A

SB - 1

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect, Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	78.	%	2-5-91
TPH Gasoline	1.0	ND	ug/g	2-11-91
TPH Diesel	10.	ND	ug/g	2-22-91
TPH - Fuel Oil	*	*	*	

ND = Not Detected

\* Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

Bruce Ten Haken

Laboratory Supervisor

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622B

SB - 2

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect, Limit	Conc.	<u>Units</u>	Date Analyzed
Total Solids	0.5	83.	%	2-5-91
TPH Gasoline	1.0	ND	ug/g	2-11-91
TPH Diesel	10.	.ND	ug/g	2-22-91
TPH - Fuel Oil	*	*	*	

ND = Not Detected

\* Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

Bruce Ten Haken

Laboratory Supervisor

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622C

SB - 3

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect, Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	94.	%	2-5-91
TPH Gasoline	1.0	30.	ug/g	2-11-91
TPH Diesel	10.	3170.	ng/g	2-22-91
TPH - Fuel Oil	*	*	*	

Bruce Ten Haken

Laboratory Supervisor

<sup>\*</sup> Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc., WO #95036

Lab #W3622D

**SB-4** 

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect, Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	84.	%	2-5-91
TPH Gasoline	1.0	198.	ug/g	2-11-91
TPH Diesel	10.	10770.	ug/g	2-22-91
TPH - Fuel Oil	*	*	*	
Benzene	0.40	ND	ug/g	2-16-91
Toluene	0.40	1.3	ug/g	2-16-91
Ethylbenzene	0.40	1.5	ug/g	2-16-91
Xylene	0.40	37.	ug/g .	2-16-91

ND = Not Detected

\* Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

Bruce Ten Haken

Laboratory Supervisor

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622E

SB - 5

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect. Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	95.	%	2-5-91
TPH Gasoline	1.0	ND	ug/g	2-11-91
TPH Diesel	10.	14.	ug/g	2-22-91
TPH - Fuel Oil	*	*	*	

ND = Not Detected

\* Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

Bruce Ten Haken

Laboratory Supervisor

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622F

SB - 6

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect, Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	89.	%	2-5-91
TPH Gasoline	1.0	ND	ug/g	2-11-91
TPH Diesel	10.	ND	ug/g	2-22-91
TPH - Fuel Oil	•	*	*	

ND = Not Detected

\* Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

Bruce Ten Haken

Laboratory Supervisor

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622G

SB - 7

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect. Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	88.	%	2-5-91
TPH Gasoline	1.0	ND	ug/g	2-11-91
TPH Diesel	10.	ND	ug/g	2-22-91
TPH - Fuel Oil	*	*	*	

ND = Not Detected

Bruce Ten Haken

Laboratory Supervisor

<sup>\*</sup> Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622H

**SB - 8** 

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect, Limit	Conc.	<u>Units</u>	Date Analyzed
Total Solids	0.5	89.	%	2-5-91
TPH Gasoline	1.0	ND	ug/g	2-11-91
TPH Diesel	10.	ND	ug/g	2-22-91
TPH - Fuel Oil	*	*	*	

ND = Not Detected

Bruce Ten Haken

Laboratory Supervisor

<sup>\*</sup> Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

May 14, 1991

Pete Pavalko Aqua-Tech, Inc. 140 S. Park Street Port Washington, WI 53074

Sample Description:

Serigraph, Inc.

WO #95036 Lab #W3622I

SB - 9

Date Collected: 2-1-91

Date Received: 2-4-91

Parameter	Detect, Limit	Conc.	Units	Date Analyzed
Total Solids	0.5	92.	%	2-5-91
TPH Gasoline	1.0	ND	ug/g	2-11-91
TPH Diesel	10.	ND	ug/g	2-22-91
TPH - Fuel Oil	*	*	*	

ND = Not Detected

\* Under the conditions of analysis, diesel fuel cannot be separated from #2 Fuel Oil. All results were quantitated as diesel fuel.

Bruce Ten Haken

Laboratory Supervisor

# APPLICATION TO TREAT OR DISPOSE OF PETROLEUM CONTAMINATED SOIL ASPHALT PLANT OR OTHER TYPE OF THERMAL TREATMENT UNIT Form 4400-121

3.91:1.2P

This form is required by the Department of Natural Resources for leaking underground storage tank sites (Wis. Adm. Code NR 419). Failure to complete and submit this form may lead to violations of subchapters III and IV of ch. 144 Wis. Stats. and may result in forfeitures of not less than \$10 or more than \$25,000 for each violation, pursuant to ss. 144.426, 144.469, 144.74 (1), and 144.99, Wis. Stats., or fines of not less than \$100 or more than \$150,000 or imprisonment for not more than 10 years, or both, pursuant to s. 144.74 (2), Wis. Stats. Each day of a continuing violation constitutes a separate violation. Department approval of this form is required prior to site remediation, except for soils to be buried in landfills.

	ALL SITES MUST C					
Site/Facility Name SERIGRAPH, INC.		Site I.D. # (for DNR use only)				
Site Address 760 INDIANA AVENUE	•	Contact Name TOM RAVIN				
City, State, Zip Code WEST BEND, WI 53095	,	1/4, 1/4, Section, Township, and Range SE SW 13 11N 19E	•			
وسر فالمساف	Courate to the best of my knowledge	Telephone Number (include area code) 414-335-7343	rest 			
Consulting Firm	Contact	Telephone Number				
AQUA-TECH, INC.	PETER PAVALKO	414-284-5746				
Type of Petroleum Contamination (Circle):  Gasoline Diesel Fuel/#2 Fuel Oil?		Soil Type (USCS)  X sand (SP, SW)  silty/clayey sands (SM, SC)  silt (ML, MH, OL)  clay (Cl, CH, OH)  gravel (GC, GM, GP, GW)  peat (PT)				
registers contamination on soil shown to be con TABLE SHOWING THE THE FOLLOWING INFO	er 15 yds <sup>3</sup> and one laboratory analysi on OR one laboratory analysis per 10 contaminated during the site invest RESULTS OF BOTH FIELD SCREEN	s per 300 yds <sup>3</sup> of contaminated soil when the PID 0 yds <sup>3</sup> when the PID does not register contamination igation/excavation or stockpiling. PLEASE ATTACH NING AND ANALYSES, IN ADDITION TO PROVIDING  3.36   1bs				
Total Petroleum Hydrocarbon	s in soil to be remediated (attac	th calculations) 41,311 lbs				
Total TPH as DIESEL FUE	<u>L</u>					
	ATTACH EMISSION	S CALCULATIONS				
(a/1,000,000) x (2,800 lbs/yd³) x b	be = benzene emission in 1bs., where	<ul> <li>a = benzene concentration of soil sample in ppm of weight basis</li> <li>b = amount of contaminated soil in yds<sup>3</sup></li> </ul>	r mg/kg dry			

NOTE: This calculation can also be used to estimate TPH emissions by substituting TPH concentration (ppm or mg/kg) for "a." It may

also be used to calculate VOCs.

Part II: Proposed	Treatment Facility
Name of Plant CLEAN SOILS THERMAL TREATMENT .	Plant number and Model SRU-101
Contact DAVE KRESS	DNR Facility I.D. No. 999773720  AIR POLLUTION CONTROL PERMIT NO. 89-POY-09
Address 760 INDIANA AVENUE, WEST BEND, WI (or location of portable plant)	Distance to Nearest Residence/Business 250 FEET
LEAVE BLANK - DEPARTMENT OF	NATURAL RESOURCES USE ONLY
Application Concurrence:  Air Management Michael Hele * Report Management Project Manager Affred S. Escher	Ch 1991 EA Date May 10, 1991  Date MAY 10, 1991
Comments:	
	HERMAL UNIT PROCESSING THE CONTAMINATED SOIL  OF IS COMPLETED  III
WDNR Air Quality permit Number 89-P09-06 Z	Actual Volume of Soil Treated (tons cubic yards) 2, 331.
Date of transport to plant.	Date of treatment 6-13 9/ to 7-10-91
Transporter Name	Transporter License Number
Circle One: Roasted and Incorporated Roasted	d Only
Total Benzene emissions in pounds for this batch (apply 50% destru	ction factor if no after burner is used) 0.005223 165.
Benzene emissions to date for this plant (including this batch) for th	is calendar year 0.00 165
Signature of Treatment plant representative	Telephone Number at Plant
Daniel H. Knus	612-639-8811
POST BURN SAMPLE RESULTS: COMPLETE ONLY F	OR SOILS NOT INCORPORATED!
(One representative sample for each 100 cubic yards-not composites)	
Sample Number	- See Attached Reports
ТРН	See II
DNR APPROVAL IS REQUIRED BEFORE USING AS COMM	ON FILL
Date of backfilling or use as common fill	Location of fill site SE 1/4 SW 1/4 13S 11NT19E R

DIRECTIONS: 1) Complete parts I and II. 2) Submit the application to the DNR project manager for approval. 3) Have the treatment facility complete part III of the approved form after the soil has been treated. 4) Return the ORIGINAL form to the DNR project manager. 5) Keep a copy for your files.

# BENZENE AND TPH CALCULATIONS

#### **TOTAL BENZENE:**

Benzene not detected at the 0.40 ug/g laboratory detection limit using 0.40 ug/g for calculation purposes.

$$\frac{0.40}{1,000,000}$$
 x 2800 lbs/yd<sup>3</sup> x 3000 = 3.36

#### TOTAL TPH AS DIESEL:

Mean TPH in samples in which TPH was detected = 4,918 ppm

NOTE: Samples were collected from the most contaminated ares within the boring and are not <u>representative</u> of the materials as a whole.

$$4918$$
 x 2800 lbs / yd<sup>3</sup> x 3000 = 41,311.20 lbs 1,000,000

CleanSoils

CleanSoils Inc. 84 2nd Avenue S.E., New Brighton, MN 55112 • (612) 639-8811 • FAX (612) 639-8813

July 30, 1991

Mr. Jeffery Fischer Lake Michigan District-DNR 1125 N. Military Avenue Box 10448 Green Bay, WI 54307

RE: Completed Thermal Treatment Application, Serigraph, Inc., West Bend, WI

Dear Mr. Fischer:

Enclosed please find the completed application for treatment of petroleum contaminated soil at Serigraph, Inc., West Bend, Wisconsin. The application includes the post-treatment laboratory results and emission calculations. Aqua-Tech Inc. was the environmental consultant and CleanSoils was the thermal treatment contractor for the projects

If you have any questions on this information, please contact me at (612)639 8811.

Sincerely,

David H. Kress Project Manager

pc: File 91.032

# TOTAL BENZENE EMISSION CALCULATION SERIGRAPH PROJECT WEST BEND, WI CLEANSOILS PROJECT #91.032

 $\frac{0.4}{1,000,000}$  X 2,800lbs./yd<sup>3</sup> X 2,331.73yd<sup>3</sup> X 0.002 = 0.005223lbs.

2,331.73yd<sup>3</sup> remediated

0.002 = 99.8% efficient afterburner

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



Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 19, 1991 Client No. 10645 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Six soil samples June 18, 1991

Three soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

gasoline and diesel and the other three of the samples as diesel. All the soil

samples to be analyzed for total solids.

SAMPLE IDENTIFICATION:

Date Collected:

June 13 and 14, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Collection Location:

June 18, 1991

Date Delivered: Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Si	C
18521	٨	
18522	. <b>F</b> A	
18523	В	
18524	Pre-Tr-I	
18525	Pre-Tr-2	
18526	Pos-Tr-1	

#### METHODOLOGY:

#### TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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



#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)	TPH as GASOLINE ppm(a)
18521-A	85.3	<1.0	<1.0
18522-FA	78.0	<1.0	<1.0
18523-B	83.3	<1.0	<1.0
18524-PreTr-1	88.5	1,330	
18525-PreTr-2	86.4	5.84	***
18526-PosTr-1	97.6	<1.0	

< means "less than" a - calculated on a dry weight basis Minimum Detection Limit = 1.0 ppm

Submitted by:

**DAVY LABORATORIES** 

Paul A. Harris, Director

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



Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 19, 1991 Client No. 10644 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received:

One soil samples June 18, 1991

Analysis Requested:

Total Petroleum Hydrocarbons (TPH) as diesel and for total solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

Collected By:

Collection Location:

Date Delivered:

Delivered By:

June 17, 1991

Peter Pavalko of Aqua-Tech, Inc.

Project: 95036 - Serigraph

June 18, 1991

Client

Upon the arrival at the laboratory, the sample was given the following identification number:

Davy Lab Number

Sample Site

18520

Pos-Tr-2

#### METHODOLOGY:

#### TPH ANALYSIS

The soil sample was analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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



Agua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 21, 1991 Client No. 10651 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Date Received:

Four soil samples

June 20, 1991

Analysis Requested:

All soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

diesel and two of the samples to be analyzed for gasoline. All of the samples were

to be analyzed for total solids.

SAMPLE IDENTIFICATION:

Date Collected:

June 18, 1991

Collected By: Collection Location: Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Date Delivered:

June 20, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Site
18553	PreTr-4
18554	. <b>D</b>
1855 <b>5</b>	FC
18556	PosTr-3

#### METHODOLOGY:

#### <u>TPH ANALYSIS</u>

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

#### TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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



#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO. TOTAL SOLIDS(%)

TPH as DIESEL ppm(a)

18520-PosTr-2

85.3

<1.0

< means "less than" a - calculated on a dry weight basis Minimum Detection Limit = 1.0 ppm

Submitted by:

**DAVY LABORATORIES** 

Paul A. Harris, Director

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



#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)	TPH as GASOLINE ppm(a)
18553-PreTr-4	83.9	165	
18554-D	80.9	< 1.0	< 1.0
18555-FC	· 84.5	< 1.0	< 1.0
18556-Post-Tr-3	100	< 1.0	

< means "less than"
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

**DAVY LABORATORIES** 

Paul A. Harris, Director

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



Division of Davy Engineering Co

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 27, 1991 Client No. 10693 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received:

One soil sample June 26, 1991

Analysis Requested:

Total Petroleum Hydrocarbons (IPH) as diesel and total solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

Collected By: Collection Location:

Date Delivered: Delivered By: June 21, 1991 Peter Pavalko

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

June 26, 1991

Client

Upon the arrival at the laboratory, the sample was given the following identification number:

Davy Lab Number

Sample Site

18607

PosTr-4

#### **METHODOLOGY:**

#### TPH ANALYSIS

The soil sample was analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

115 South 6th Street P.O. Box 2076 La Crosse WI 54602-2078 (608) 782-3130 FAX: (608) 784-6611



Aqua-Tech, Inc. June 27, 1991 Page 2

#### **RESULTS:**

The result of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE TOTAL TPH as DIESEL NO. SOLIDS(%) ppm(a)

18607-PosTr-4 100 <1.0

< means "less than"</p>
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAYY LABORATORIES

Paul A. Harris, Director

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



Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 27, 1991 Client No. 10694 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received:

One soil sample June 26, 1991

Analysis Requested:

Total Petroleum Hydrocarbons (TPH) as diesel and total solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

June 22, 1991

Collected By: Collection Location: Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Date Delivered:

June 26, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the sample was given the following identification number:

Davy Lab Number

Sample Site

18608

PosTr-5

#### METHODOLOGY:

#### TPH ANALYSIS

The soil sample was analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was Injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A. minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

115 South 6th Street P.O. Box 2076 La Crosse WI 54602-2078 (608) 782-3130 FAX: (608) 784-6611



Aqua-Tech, Inc. June 27, 1991 Page 2

#### **RESULTS:**

The result of the analysis for Total Petroleum Hydrocarbons (IPH) and total solids is given below:

 SAMPLE
 TOTAL
 TPH as DIESEL

 NO.
 SOLIDS(%)
 ppm(a)

 18608-PosTr-5
 100
 <1.0</td>

< means "less than"
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

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



Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 June 27, 1991 Client No. 10696 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received:

Two soil samples June 26, 1991

Analysis Requested:

Total Petroleum Hydrocarbons (IPH) as diesel and total solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

Collected By: Collection Location:

Date Delivered:

Delivered By:

June 24, 1991

Peter Pavalko of Aqua-Tech, Inc.

Project: 95036 - Serigraph

June 26, 1991

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Numbers

Sample Site

18611

18612

PreTr-6

PosTr-6

#### METHODOLOGY:

#### TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

The sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the samples were injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A, minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the samples were weighed out and dried to a constant weight.

115 South 6th Street P.O. Box 2076 La Crosse WI 54602-2078 (608) 782-3130 FAX: (608) 784-6611



Aqua-Tech, Inc. June 27, 1991 Page 2

#### **RESULTS:**

The result of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)
18611-PreTr-6	87.7	28.8
18612-PosTr-6	100	<1.0

< means "less than"</p>
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

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



Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 1, 1991 Client No. 10707 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Date Received:

Four soil samples June 27, 1991

Analysis Requested:

All of the soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as diesel and two of the samples to be analyzed for gasoline. All of the samples were

to be analyzed for total solids.

SAMPLE IDENTIFICATION:

Date Collected:

June 25, 1991

Collected By: Collection Location: Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

Date Delivered:

June 27, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number

Sample Site

18651	
18652	
18653	
10654	

X ProTr.7 w

18654

PosTr-7

#### **METHODOLOGY:**

#### TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of TPH as Diesel was extracted three times with carbons disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system, A, minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11-minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained form standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was u∝d.

#### TOTAL SOLIDS

The samples were analyzed according to EPA Methodology. A portion of the sample was weighed out and dried to a constant weight.

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



Aqua-Tech, Inc. July 1, 1991 Page 2

#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE NO.	TOTAL SOLIDS(%)	TPH as DIESEL ppm(a)	TPH as GASOLINE ppm(a)
18651-X	91.6	<1.0	<1.0
18652-PieTr-7	81.8	10.8	
18653-W	84.0	<1.0	< 1.0
18654-PosTr-7	100	<1.0	

< means "less than"
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DATY LABORATORIES

Paul A. Harris, Director

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



Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 1, 1991 Client No. 10718 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Three soil samples June 28, 1991

Total Petroleum Hydrocarbons (TPH) as diesel, and total percent solids.

**SAMPLE IDENTIFICATION:** 

Date Collected:

Collected By: Collection Location:

Date Delivered: Delivered By: June 26, 1991

Peter Pavalko of Aqua-Tech, Inc. Project: 95036 - Serigraph

June 28, 1991

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

 Davy Lab Number
 Sample Site

 18689
 PreTr-8

 18690
 PreTr-9

 18691
 PosTr-8

#### METHODOLOGY:

#### TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the each sample was injected into a Perkin-Elmer Sigma 2B Gas Chromatograph equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

#### TOTAL SOLIDS

The sample was analyzed according to EPA Methodology. A portion of the sample was weighed out and dried at 103-105°C.

#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below:

SAMPLE <u>NO.</u>	TOTAL SOLIDS(%)	TOTAL PETROLEUM HYDROCARBONS as DIESEL (ppm)a
18689-PreTr-8	88.4	199.0
18690-PreTr-9	94.2	4,830
18691-PosTr-8	100	<1.0

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Aqua-Tech, Inc. July 1, 1991 Page 2



< means "less than"</p>
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

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



Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 2, 1991 Client No. 10719 Project No. 95036

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Five soil samples

Date Received:

June 28, 1991

Analysis Requested:

All of the soil samples to be analyzed for Total Petroleum Hydrocarbons (TPH) as

diesel and three for gasoline. Additionally, all of the samples to be analyzed for

Total Percent Solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

June 26, 1991

Collected By:

Peter Pavalko of Aqua-Tech, Inc.

Collection Location:

Project: 95036 - Serigraph

Date Delivered:

June 28, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Site
18692	. FD
18693	PreTr-10
18694	E .
18695	<b>v</b> .
18696	PostTr-Q

#### **METHODOLOGY:**

#### TPH ANALYSIS

The soil samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of Diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the each sample was injected into a Perkin-Elmer Sigma 2B Gas Chromatograph equipped with a FID detector. Fuel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used to quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as Gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11 minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained from standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

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



#### TOTAL SOLIDS

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was weighed and dried at 103 - 105°C.

#### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids is given below.

SAMPLE NO.	TPH as DIESEL (ppm)a	TPH as GASOLINE (ppm)a	TOTAL SOLIDS %
18692-FD	<1.0	<1.0	83.0
18693-PreTr-10	1,720		84.6
18694-E	<1.0	<1.0	83.8
18695-V*	<1.0	<1.0	88.4
18696-PosTr-9	26.3		100

< means "less than"
a - calculated on a dry weight basis
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

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



Division of Davy Engineering Co

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 5, 1991 Client No. 10725

Attn: Mr. Peter Pavalko

#### INTRODUCTION:

Number of Samples Received:

Date Received: Analysis Requested: Five soil samples July 2, 1991

Total Petroleum Hydrocarbons (TPH) as diesel and gasoline, plus all samples to

be analyzed for total percent solids.

#### SAMPLE IDENTIFICATION:

Date Collected:

July 1, 1991

Collected By: Collection Location: Peter Pavalko of Agua Tech, Inc. Serigraph - Project No. 95036

Date Delivered:

July 2, 1991

Delivered By: Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

Davy Lab Number	Sample Site
18708	PostTr-11
18709	G
18710	F
18711	P∞Tr-9A
18712	P∞Tr-9B

#### METHODOLOGY:

The samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Mamual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Puel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11 minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained from standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

#### TOTAL SOLIDS ANALYSIS

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was weighed and dried at 103 - 105°C.

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Aqua Tech, Inc. July 5, 1991 Page 2

**RESULTS:** 

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids in the samples are given below:

SAMPLE NO.	SAMPLE SITE	TPH AS DIESEL (ppm)a	TPH AS GASOLINE(ppm)a	TOTAL SOLIDS (%)
18708 18709 18710 18711 18712	PosTr-11 G F- (PosTr-9A PosTr-9B	2.9 6,440 <1.0 23.0 45.8	<1.0 <1.0 	100 94.2 95.7 90.4 88.6
		< means "less than" a - calculated on a "dr Minimum Detection I		

Submitted by:

DAVY LABORATORIES

collected from the pile shows to be good them 100,700 to south their 7

Paul A. Harris, Director

The laboratory analysis reported was determined in accordance with current methodology. The results are only representative of the samples received; conditions can be expected to vary at different times and under different sampling conditions.

115 South 6th Street P.O. Box 2076 La Crosse WI 54602-2076 (608) 782-3130 FAX: (608) 784-6611 LABORATORIES
Division of Davy Engineering Co.

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074 July 9, 1991 Client No. 10726 Project No. 95036

Attn: Mr. Peter Pavalko

INTRODUCTION:

Number of Samples Received:

Eight soil samples July 2, 1991

Date Received: Analysis Requested:

Total Petroleum Hydrocarbons (TPH) as diesel and gasoline, plus all samples to

be analyzed for total percent solids.

**SAMPLE IDENTIFICATION:** 

Date Collected:

June 28, 29, 1991

Collection Location:

Peter Pavalko of Aqua Tech, Inc. Serigraph - Project No. 95036

Date Delivered: July 2, 1991

Delivered By:

Client

Upon the arrival at the laboratory, the samples were given the following identification numbers:

DAVY LAD NUMBER	Sample Sil
18713	U
18714	PreTr-11
18715	Ħ
18716	PosTr-10
18717	<b>I</b> '
18718	FE
18719	T
18720	Ĵ

### **METHODOLOGY:**

The samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wisconsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Puel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Puel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used quantitate the sample response. Total peak areas obtained were compared with known standards.

The soil samples were analyzed for TPH as gasoline by extracting a portion of the sample with methanol. The sample was then purged for 11 minutes using helium as the carrier gas. Following the purge cycle, the sample was desorbed into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Peak areas obtained were then compared to the areas obtained from standard curves. Quantitation was based on the response of the parameter against concentration. A linear regression curve was used.

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



Aqua Tech, Inc. July 9, 1991 Page 2

## TOTAL SOLIDS ANALYSIS

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was preweighed and dried for a given period of time. Following the drying cycle, the sample was reweighed and the percent solids calculated.

## **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids in the samples are given below:

SAMPLE NO.	SAMPLE SITE	TPH AS DIESEL (ppm)a	TPH AS GASOLINE(ppm)a	TOTAL SOLIDS (%)
18713	U	<1.0	<1.0	84.2
18714	PreTr-11	19.2	•	93.8
18715	H	2.5	<1.0	90.2
18716	PosTr-10	<1.0	-	100
18717	ì	<1.0	<1.0	90.0
18718	FE	<1.0	<1.0	79.6
18719	T	<1.0	<1.0	88.7
18720	Ĵ	<1.0	<1.0	91.8

< means "less than"</p>
a - calculated on a "dry weight basis"
Minimum Detection Limit = 1.0 ppm

Submitted by:

DAVY LABORATORIES

Paul A. Harris, Director

The laboratory analysis reported was determined in accordance with current methodology. The results are only representative of the samples received; conditions can be expected to vary at different times and under different sampling conditions.

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

Aqua-Tech, Inc. 140 South Park Street Port Washington, Wisconsin 53074

Attn: Mr. Randy Igel



Division of Davy Engineering Co

July 11, 1991 Client No. 10759 Project No. 95036

### INTRODUCTION:

Number of Samples Received:

Date Received:

Analysis Requested:

Two soil samples

July 10, 1991

Total Petroleum Hydrocarbons (TPH) as diesel, plus all samples to

be analyzed for total percent solids.

# SAMPLE IDENTIFICATION:

Date Collected: Collected By:

Collection Location:

July 9, 1991

Randy Igel of Aqua Tech, Inc. Serigraph - Project No. 95036

DAVY LAB NO.

SAMPLE SITE

18784 18785 PosTr-12 PosTr-9C

### METHODOLOGY:

### TPH AS DIESEL

The samples were analyzed according to the method outlined in the Leaking Underground Fuel Tank Manual published by the State of California. The Wiscorsin Department of Natural Resources references this method for the analysis of Total Petroleum Hydrocarbons (TPH) either as Gasoline, Fuel Oil, or Diesel.

Each sample for the determination of diesel was extracted three times with carbon disulfide. The extracts were then dried and concentrated to 1-ml with carbon disulfide. A portion of the sample was injected into a Perkin-Elmer Sigma 2B GC equipped with a FID detector. Puel standards from the EPA are used to calibrate the system. A minimum of eight peak areas are used quantitate the sample response. Total peak areas obtained were compared with known standards.

## TOTAL SOLIDS ANALYSIS

The percent total solids were determined on each sample using current EPA Methodology. A portion of the sample was preweighed and dried for a given period of time. Following the drying cycle, the sample was reweighed and the percent solids calculated.

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



Aqua Tech, Inc. - Randy Igel July 11, 1991 - Client No. 10759 Page 2

### **RESULTS:**

The results of the analysis for Total Petroleum Hydrocarbons (TPH) and total solids in the samples are given below:

SAMPLE	sample	TPH AS	TOTAL
NO.	site	DIESEL (ppm)a	SOLIDS (%)
18784	RosTr-12	<1.0	100
18785	PosTr-9C	<1.0	100

< means "less than"</p>
a - calculated on a "dry weight basis"
Minimum Detection Limit = 1.0 ppm

Submitted by:

Trans For Dinging in Good next in fine reducing in the Kom for office

DAVY LABORATORIES

IN JAMPIC BATTE 9

Paul A Harris Director

The laboratory analysis reported was determined in accordance with current methodology. The results are only representative of the samples received; conditions can be expected to vary at different times and under different sampling conditions.

### TABLE 4-1

# CHEMICAL ANALYSES (TPH) OF SOIL BORING SOIL SAMPLES



## WEST BEND, WISCONSIN

DATE COLLECTED: 2/1/91

Sample Number	Depth Interval (feet)	Total Petroleum Hydrocarbons as gasoline(uq/ql	Total Petroleum Hydrocarbons as diesel fuel(ug/q)	Maximum Photoionization Detector Readings [ppm]
SB-1	10-12	ND <sup>2</sup>	кD <sub>3</sub>	0
SB-2	10-12	ND <sup>2</sup>	ИФ <sub>3</sub>	0
SB-3	0-5	30.04	3,970.0	50
SB-4	7-9	196.0	10,770.0	150
SB-5	3-5	NTD <sup>2</sup>	14.0	2
SB-6	10-12	ND <sup>2</sup>	MD3	0
SB-7	10-12	MD <sup>2</sup>	ND <sup>3</sup>	C
SB-8	10-12	ND <sup>2</sup>	ND <sup>3</sup>	0
SB-9	10-12	ND <sup>2</sup>	MD <sub>3</sub>	0

All results calculated on a dry weight basis.

<sup>2</sup> Not detected above the 1.0 ug/g laboratory detection limit.

Not detected above the 10.0 ug/g laboratory detection limit.

Ten ug/g is the maximum level of TPH contamination allowed in soil before remediation is required by the Wisconsin Department of Industry, Labor, and Human Relations.



April 29, 1991

Mr. Jeff Fischer Wisconsin Department of Natural Resources, SE District 2300 N. Dr. Martin Luther King, Jr. Drive Box 12436 Milwaukee, WI 53212

Dear Jeff:

RE: Work plan for the remediation of contaminated soils via thermal treatment at the Serigraph, Inc. site, 760 Indiana Ave., West Bend, WI.

The purpose of this letter is to outline the projected scope of work at the Serigraph site and associated factors which will be of concern during this project. ATI Project # 95036.

# Scheduling & Preparation

This project is tentatively scheduled to begin the week of May 20, 1991. The start date will be dependent on the ending date of the Adell Whey project which is also using the Clean Soils thermal treatment unit. The thermal treatment unit should be operational at the Adell Whey site the week of May 6, 1991 if you would like to see it - see Frank Fuja.

### The Excavation

ATI estimates the excavation and treatment of approximately 4,000 tons of contaminated soil (sand) at the site. The soil will be thermally treated by a Clean Soils portable roaster. The depth of the excavation is anticipated to be approximately 12 feet and should be relatively constant throughout the excavation. It appears that the true groundwater table was encountered at the site at a depth of 11 feet in soil borings during the SI.

The soil will be excavated and treated entirely on site. The treated soil will be stockpiled on site until conditions allow for its backfilling within the excavation. A water supply of 20 gpm will be utilized to remoisturize treated soil to advert potential dust problems.

A minimum of one groundwater collection sump will be installed within the excavation near the downgradient end prior to backfilling. When the excavation is complete ATI anticipates the installation of three groundwater monitoring wells around the excavation limits. Please refer to the enclosed map for the anticipated dimensions and location of the excavation and locations of groundwater monitoring wells.

Mr. Jeff Fischer April 29, 1991 Page 2

# Sampling

# Field Screening

Soil samples from the floor and walls of the excavation will be field screened with a PID using the headspace method on a five foot grid pattern.

# **Laboratory Sampling**

The Excavation - After the excavation is complete and prior to backfilling soil samples will be

collected at 25 foot intervals from the walls of the excavation from a depth of 5.0 to 9.0 feet; this is the depth interval that appeared to be most contaminated during the SI. Soil samples will also be collected every 25 feet on the floor of the excavation. Soil samples will be analyzed for TPH as gasoline and diesel

fuel.

Pre-Treatment - Per requirements as stated on Form 4400-120 one PID sample per 15 yds and

one laboratory analysis (TPH - diesel only) per 300 yds of contaminated soil will

be collected to verify that only contaminated soil is being remediated.

Post-Treatment - One soil sample per 300 yds of treated soil will be collected to verify TPH (diesel

only) levels below 10 ppm. These samples will be run on a one or two day

turnaround.

If there are any aspects of this project that you would like more information about, please contact me.

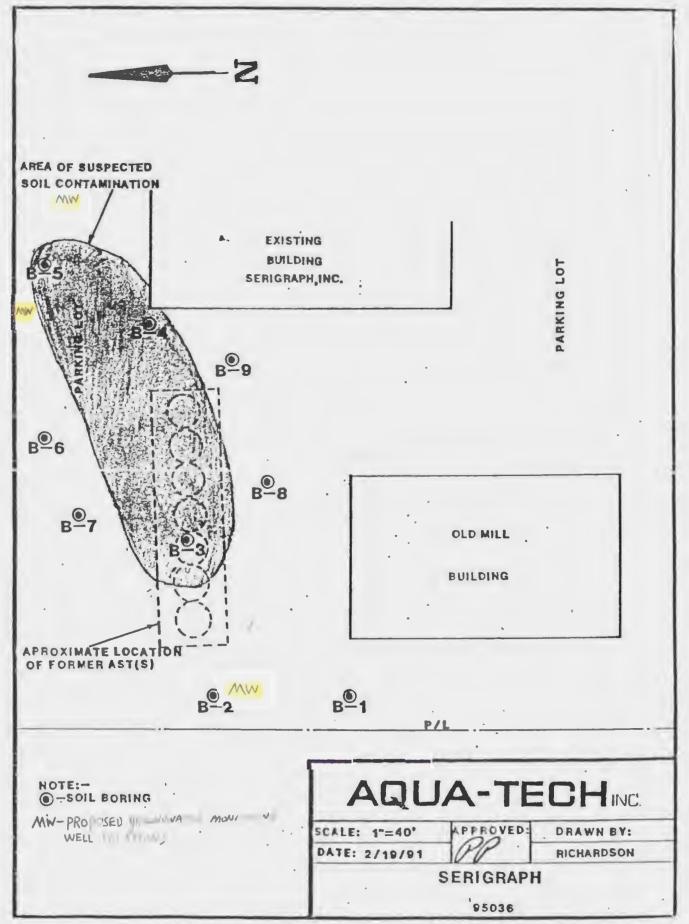
Sincerely,

AQUA-TECH, INC.

Pete Pavalko

**Environmental Specialist** 

cc: Tom Ravn, Serigraph, Inc.



# AQUA-TECHING

APR 1 7 1991

April 15, 1991

Mr. Jeff Fischer SE Dist., WDNR 2300 N Dr. Martin Luther King, Jr. Dr. Box 12436 Milwaukee, WI 53212

Mr. Fischer:

RE: Portable Soil Roaster - Serigraph, Inc., West Bend, WI.

Enclosed please find a copy of the Clean Soils mobile thermal treatment brochure. We are strongly considering this option rather than landfilling or asphalt incorporation. Clean Soils say they have a WDNR air permit already. We analyzed the worst soil sample for BTEX already (see report for lab data). We would still like to discuss/confirm the following topics:

- Will any other pre-treatment analyses be required by the 1. WDNR?
- 2. number and type of post-treatment analyses?
- Air Quality approval? Additional on-site air monitoring 3. required?
- Can the soil be used as backfill if less than 10ppm TPH? 4. Contingency plan in the event that roasted soil is slightly greater than 10ppm TPH.

This project may begin in less than one month. I will be in contact soon. If you have any other questions or comments please call me.

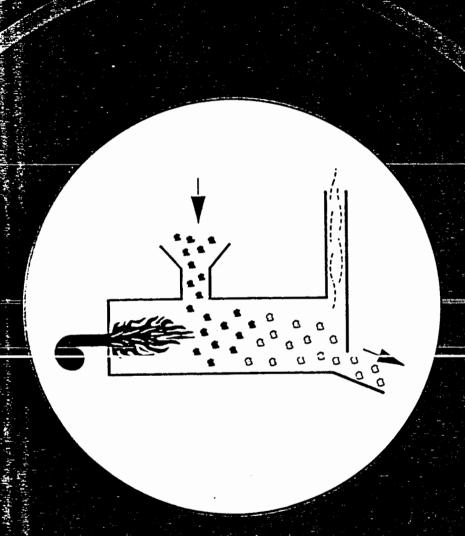
Sincerely,

AQUA-TECH, INC.

Pete Pavalko

Environmental Specialist

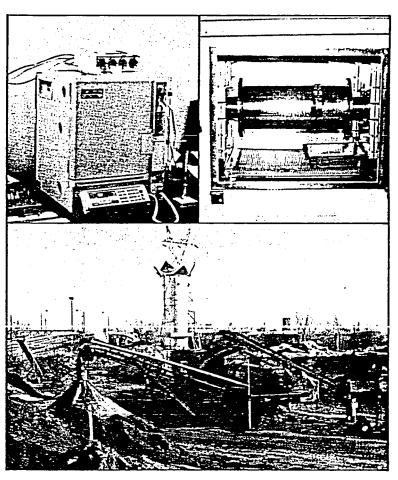
Thermal Desorber™



CléanSoils

# RISK FREE AND POLLUTION FREE

The CleanSoils Thermal Desorber is a final treatment method for decontaminating soils. Thin spreading, vapor extraction and asphalt plant processing merely result in transferring hydrocarbons to the air. Studies show that asphalt plants are ineffective at destroying even light petroleum compounds and most hydrocarbons go out the stack. Landfilling of contaminated soils presents the risk of future liability. CleanSoils Thermal Desorber emits an invisible plume with less than 0.04 gdcf particulates and removes over 99 percent of hydrocarbons in the exhaust gas stream. Soils are typically decontaminated to less than 10 ppm, depending on soil characteristics and process conditions. CleanSoils guarantees its work with laboratory analysis of processed soils and certificates of compliance.



# DRIVEN BY APPLIED TECHNOLOGY

CleanSoils is rapidly advancing thermal extraction technology. Our engineering staff has conducted extensive research, predictive modeling and field testing to determine effective equipment designs and soil-specific operating parameters. Our proprietary benchscale test equipment allows us to conduct advance testing of volatilization potential for candidate soils. Our laboratory is used exclusively for analyzing hydrocarbons in soils for our own projects. We are continually upgrading our soil remediation technologies using information generated in our laboratory and at our processing sites.

# WE CAN TACKLE TOUGH PROJECTS

CleanSoils has permits from a number of states to process petroleum contaminated soils. We can also use thermal extraction technology at clients sites to treat soils with other hydrocarbons like solvents, PAH's and similar hazardous materials (subject to regulatory review). We can modify our equipment to include wet scrubbers and other accessories to deal with specific contaminants. We require submittal of a soil profile sheet, laboratory analysis, grain size analysis and a soil sample to review each candidate soil.

# **COST YOU CAN LIVE WITH**

How much does total satisfaction cost? Processing costs depend on soil type, moisture content, contamination, volume and debris loading. Sandy soils with gasoline or No. 2 fuel oil can usually be processed per ton. Each candidate soil is carefully evaluated in CleanSoils laboratory and all material characteristics are reviewed prior to pricing. CleanSoils is competitive with other remedial alternatives yet offers complete and final remediation. When costs for monitoring, laboratory analyses, trucking and future risk exposure are factored in, CleanSoils is tough to beat. And backfill is free!

# SOIL TREATMENT - OUR ONLY BUSINESS

CleanSoils Inc. treats contaminated soils using state-of-the-art technologies. We direct all our resources towards developing and implementing soil decontamination technologies. For soil containing hydrocarbons, CleanSoils operates Thermal Desorber\* plants at fixed locations and on a mobile basis. CleanSoils is not a consultant, laboratory or a groundwater remediation company.

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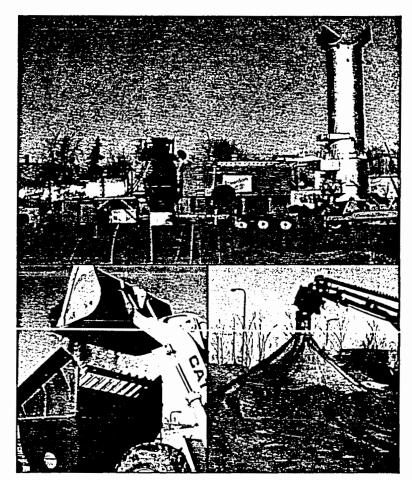
CLEANSOILS THERMAL DESORBER™

The CleanSoils Thermal Desorber is a stand alone, mobile, soil treatment system which uses thermal extraction followed by exhaust gas incineration for remediating hydrocarbon contaminated soils. It removes contaminants including petroleum products (gasoline through No. 6 fuel oil), and other hydrocarbons with low to medium boiling points. The system fits on two trailers and is accompanied by feed and discharge conveyors, a pulverizer, screen plant and loader. The Thermal Desorber requires about 100 feet by 100 feet and operates on natural gas or liquid propane.

## SOIL AND PROCESS GAS TREATMENT

Contaminated soils are preprocessed by being fed into a large hopper and pulverized and screened to less than two inches. Soils are weighed on a feed belt as they enter the primary treatment unit. The primary is a counterflow rotating drum which heats soils to 300-600°F. This removes moisture and volatilizes hydrocarbons. Temperature and retention time are adjusted for the waste stream by adjusting the feed rate, drum speed, rake, burner controls or flighting pattern. Soils exit the primary to a discharge conveyor with a special water spray and dust control system. The unit can process 20 to 50 tons of contaminated soil per hour.

Exhaust gases from the primary go through a knockout chamber, quench system, pulsed jet baghouse and finally an afterburner. The afterburner combusts any residual organics at temperatures of up to 1400°F. An optional wet scrubber can be used instead of the afterburner for certain waste streams.



# FIXED BASE OR MOBILE

CleanSoils is presently working both on a fixed and mobile basis. Staging areas are being developed as processing sites for smaller volumes of contaminated soils. If a single project has a large volume of soils to be treated (typically more than 1000 cubic yards) it is frequently advantageous to transport a Thermal Desorber\* plant to that site.

CleanSoile

CleanSoils Inc. 84 2nd Avenue S.E., New Brighton, MN 55112 • (612) 639-8811 • FAX (612) 639-8813

# SOIL PROFILE SHEET

Cleans	Soils	Refe	erence	No:	(For CS use only)
INSTRU	CTIONS	S:			
analyt will no analyt of soi genera applic proces applic respon submit	ical a ot be ical of l when tor an ation sing pant a sible ting plo	and of issinguable is a property of the contract of the contra	geotech ued wit Clea propria pplicat may pe meters eanSoil paymen a respo	nic hou nso te. ion rfo and s' at a	the soil profile sheet and submit with cal reports. Written price quotation at submission of a Soil Profile Sheet and cils may request a representative sample. If so, label sample with customer, a date. CleanSoils will evaluate each corm benchscale tests to determine a costs. Samples may be returned to the option. Please list the party as CUSTOMER. If you are a consultant lible party but are not responsible for a name, company and telephone number as
1. <u>C</u>	USTOMI	<u>ER</u>	Name:		·
		bА	dress:		
		Co	ntact:		Telephone:
2. <u>G</u>	ENERA'	<u>ror</u>	Name:_		different)
		Ad	dress:		
		•			-
	L	eak	ID No:		
3. <u>C</u>	ONSUL	TANT	Name:		
		βA	dress:		
		Co	ntact:		Telephone:
4. <u>s</u>	OIL L		ION ility:	(if	f different)
		ЪА	dress:		

(Continued on reverse side)

# SOIL PROFILE SHEET (continued)

5.	ESTIMATED QUANTITYTons ORCubic Yards
	Source:TanksPipelineSpillOther
	Date Excavated:
6	CONTAMINATIONGasoline, No Fuel Oil, Other:
0.	Field PID Reading: Range (min-max) ppm Average
	rield Fib Redding. Range (min max)ppm Average
7.	ANALYTICAL DATA (hard copy of analytical report required):
	Total Petroleum Hydrocarbons as Gas/F.O ppm
	Benzene ppm Toluene ppm Ethyl Benzene ppm
	Xylenes ppm Total Lead ppm Other
8.	SOIL CHARACTERISTICS
٠	Type:Sand,Silty Sand,Sandy Clay,Clay,Topsoil
	Unified Soil Classification System Designation
	Cohesiveness:CohesiveFriableNoncohesive
	Color:Dark BrownTanBlack
	Fines Content:% Actual Fines Passing #200 by weight
	Moisture:Appears Dry,Moist,Wet,Saturated
	% Actual Moisture Content
÷	Rocks:None,% Below 2",% Above 2", Boulders
	Debris:None,Some (describe)
_	ADDITIONAL INFORMATION
9.	ADDITIONAL INFORMATION
10.	TERMS I understand that this application and soil sample is submitted
	for evaluation by CleanSoils Inc. and all test samples may be returned to the applicant. No soils will be received or processed unless an
	agreement is properly executed. I also understand that no hazardous substances as defined by RCRA may be delivered to or processed by
	CleanSoils.
	Signed:

Clean

CleanSoils Inc. 84 2nd Avenue S.E., New Brighton, MN 55112 • (612) 639-8811 • FAX (612) 639-8813

### PROCESS DESCRIPTION- CLEANSOILS THERMAL DESORBER

Soil is fed at 20-40 tons per hour into a large hopper with an adjustable grizzly screen to remove large rocks and debris. Material then passes through a two inch vibrating screen or a crusher to properly size all particles. Soil is fed by variable speed conveyor belt into the primary treatment unit (PTU). Incoming soils are weighed on a microprocessor controlled belt scale. The PTU is a 5x22 foot counter flow rotary kiln with a 25MBTU propane fired burner. Soil is heated to 350-500°F for up to five minutes while cascading down the PTU. Hydrocarbons are desorbed from soils in the PTU and are immediately combusted or become part of process gases, depending on contaminant type and concentration.

Process gases are treated by filtration in a high efficiency baghouse for particulate control followed by high temperature incineration in the secondary treatment unit (STU). The baghouse fines are recombined with hot soils exiting the PTU to remove residual contamination. The STU operates at 1000-1700°F to combust hydrocarbons in the process exhaust gas stream. No ash, residual water or contaminated process water is involved. The process requires no long term monitoring because processed soil is decontaminated to meet regulatory requirements.

The process requires different operating parameters for different soils. Factors influencing process operations include soil type, moisture, contamination type and concentrations. CleanSoils has developed software to determine proper operating criteria for various conditions. Adjustments include screen sizes, PTU and STU set temperatures, air flow, drum rake, burner settings, retention times, etc. CleanSoils engineers evaluate each project individually. Actual process data is recorded by CleanSoils operators and using a data logger with graphic printout.

Treated soils are remoisturized to 2-5 percent moisture content to control dust and to improve handling characteristics. Approximately 20 gallons per minute is required to provide water for restoring soil moisture under average operating conditions.

CleanSoils is required to have state air emission permits for each plant. Also, some states require site by site approval before mobilizing. In 1990, less than one percent of post burn soil samples exceeded 10 ppm TPH, including projects where soil contained 35 percent moisture, 60 percent fines and TPH contamination of 25,000 ppm. Due to our track record, CleanSoils gets many referrals from regulatory agencies.

# CLEANSOILS INC. PARTIAL CLIENT LIST

T&TA

APTUS

Ashland Oil Company

Bay West, Inc.

Blasland & Bouck Engineering

Braun Engineering

Cargill

CH2M Hill

Control Data Corp.

Delta Environmental

DPRA Engineering

ENSR

Foth & VanDyke

General Mills

GME Consultants

HydroSearch

ICF Kaiser

Laidlaw Environmental

Leggette, Brashears & Graham

Malcolm Pirnie Inc.

Milacs Oil

3M Company

Pollution Control Agency

Nova Environmental

R.E. Wright Assoc.

STS Consultants

SP Environmental

Tellus Consultants

Texaco

Twin City Testing Corp.

University of Minnesota

U.S. Army

Wenck Assoc.

Amoco Oil Company

ARCO

Barr Engineering

Bor-son Co.

Bolander & Sons

CSX Minerals

Chevron

Como Foundry Partners

Dahl & Associates Inc.

Donohue Associates

Enecotech Inc.

Federated Insurance Ha

Geocon

Geraghty-Miller

Groundwater Technology

IT Corporation

Keystone Environmental

Lincoln Companies

B. A. Liesch Assoc.

Metro Waste Control Com.

Midwest Environmental

MN Petroleum Services NN

MN State Univ. System

Pace Labs

Rollins Oil

Sinclair Oil

SuperAmerica

Terracon Consultants

Total Petroleum

United Hospital

U.S. Air Force

Warzyn Engineering

West Shore Pipeline

CléanSoils

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84 2nd Ave. S. E. New Brighton, MN 55112

# PHASE III ENVIRONMENTAL ASSESSMENT

FOR THE

SERIGRAPH, INC. SITE

760 INDIANA AVENUE

WEST BEND, WISCONSIN

MARCH 1991

PREPARED BY
AQUA-TECH, INC.
140 SOUTH PARK STREET
PORT WASHINGTON, WISCONSIN 53074
ATI PROJECT 95036

### PHASE III ENVIRONMENTAL ASSESSMENT

FOR THE

SERIGRAPH, INC. SITE

760 INDIANA AVENUE

WEST BEND, WISCONSIN

Prepared By:

Environmental Assessment Specialist

Aqua-Tech, Inc.

Reviewed By:

Date: 3-18-91

Y. Vance Jackson, Jr. Hydrogeologist Aqua-Tech, Inc.

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### 1.0 SUMMARY

Aqua-Tech, Inc. was contracted by Serigraph, Inc. to conduct a Phase III Environmental Assessment at the facility located at 760 Indiana Avenue, West Bend, Wisconsin. The purpose of the assessment was to determine the extent of contamination which may be associated with several aboveground storage tanks formerly located at the site that were identified during a Phase I Environmental audit conducted by Foth & Van Dyke Associates in January 1991. The Phase III assessment included the following:

- \* Nine soil borings to a maximum depth of 14.0 feet
- \* Collection and field screening of subsurface soil samples for volatile organic compounds (VOCs) with a photoionization detector (PID)
- \* Chemical analyses of nine subsurface soil samples for total petroleum hydrocarbons (TPH) as gasoline, diesel fuel, and fuel oil.
- \* Chemical analysis of one soil sample for benzene, toluene, ethylbenzene, and xylenes (BTEX)
- \* <u>Documentation</u> of sampling procedures and soil and groundwater conditions at the site.

Results of this investigation indicate that a release of petroleum products and subsequent contamination of subsurface soil has occurred at the site. Laboratory analyses of two of the nine soil samples collected at the site identified TPH contamination above the 10 ug/g (ppm) Wisconsin Department of Industry, Labor, and Human Relations (WDILHR) remedial action level. In addition, field screening of soils from two of the borings with a PID indicated the presence of VOCs significantly above background levels.

Groundwater was encountered in the nine soil borings at a depth of approximately 11.0 feet. No groundwater samples could be collected due to sand clogging the collection bailer. A potential

for contamination of groundwater exists for this site. Further monitoring will be necessary to confirm this possibility and to define its extent.

Based on the soil borings completed at the site, the area of contamination, located near the northwest corner of the Serigraph facility, is believed to be approximately 140 feet long and 50 feet wide. The vertical extent of contamination in this area intercepts the groundwater table at a depth of 11.0 feet. The area of contaminated soil appears to correspond to the location of several aboveground petroleum storage tanks which existed at the site from 1958 to 1983.

Aqua-Tech, Inc. estimates that approximately 2,850 cubic yards of petroleum contaminated soil exists at the site. Remediation options include excavation and landfilling or excavation and asphalt incorporation. Preliminary cost estimates for remedial activities are outlined in Section 6.0.

#### 2.0 SITE BACKGROUND

### 2.1 Introduction

This section includes information obtained from the onsite operations and the site representative interview.

### 2.2 Site Location

The Serigraph, Inc. site is located at 760 Indiana Avenue, West Bend, Wisconsin. Serigraph, Inc. occupies approximately five acres in a residential/commercial area of Washington County, Wisconsin (See Figure 2-1). The portion of the Serigraph property under investigation is located west and north of the northwest corner of the Serigraph facility.

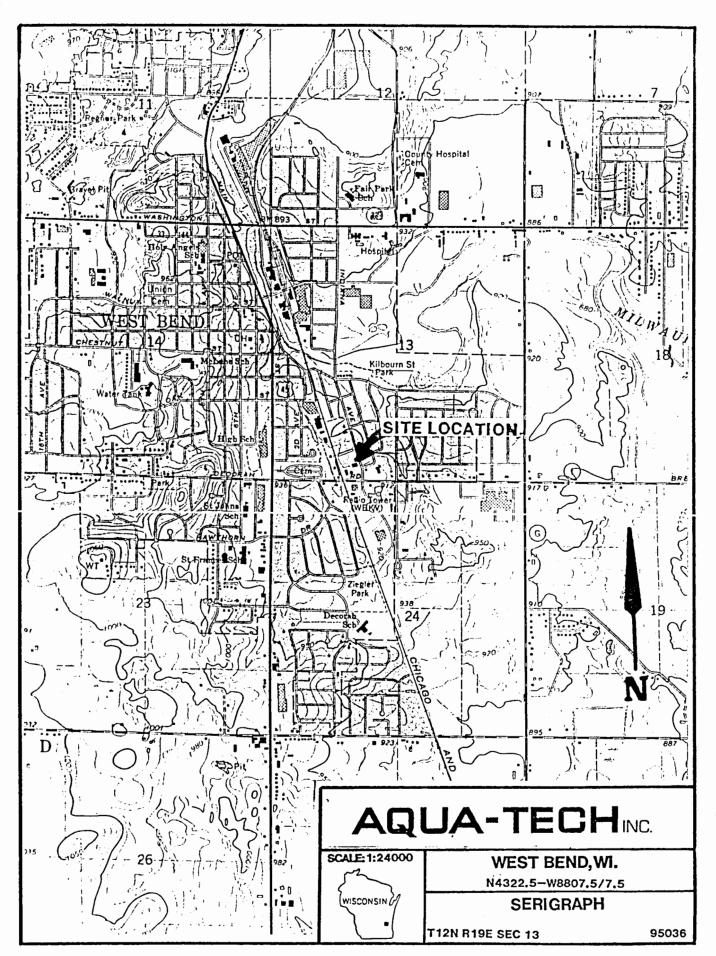
### 2.3 Site Geology

This site is located in the Eastern Ridges and Lowlands Province in southeastern Wisconsin. Glaciation has been an important agent in determining the geology and physiography of the site. It is part of the eastern end moraine of the Green Bay lobe of the Wisconsinan ice sheet deposited during the Woodfordian time.

The soils encountered within the soil borings at the site consisted of sands, gravels, and some silt which are consistent with the regional complex of soils typical of the glaciated uplands of southeastern Wisconsin.

Bedrock in the area is buried to varying depths by glacial deposits. Regionally, it consists of Silurian age dolomite of the Nigagaran Series. Bedrock was not encountered in the soil borings which reached to a maximum depth of 14.0 feet.

Surface topography at the site slopes gently to the northeast. Based on surface topography, the regional ground-water flow is believed to be northeast toward the Milwaukee River, which is 2,000 feet north of the site.



### 2.4 History

П

The Serigraph facility was built in 1955. Specialty graphics products are manufactured at the facility. Most of the area investigated during this assessment was purchased by Serigraph, Inc. in 1985.

The property west of Serigraph was utilized as a feed mill and petroleum distribution center from 1958 to 1983. A portion of the building which housed the feed mill is still located on the site (See Figure 3-1). Seven or eight above-ground bulk petroleum storage tanks (ASTs) were installed in 1958 on this property. The ASTs were oriented in an east-west direction approximately 70 feet north of the mill building. Based on photographs, the sizes of the ASTs are estimated to be greater than 20,000 gallons each. The ASTs are believed to have contained home heating oil and diesel fuel. The tanks were dismantled and removed from the site in 1983.

Based on the results and recommendations of a Phase I Environmental audit conducted by Foth & Van Dyke Associates, Milwaukee, Wisconsin, Serigraph, Inc. elected to complete a series of soil borings in the vicinity of the former ASTs.

### 3.0 SITE ASSESSMENT PROCEDURES AND FIELD OBSERVATIONS

### 3.1 Introduction

This section outlines procedures and observations for the Phase III Environmental Assessment at Serigraph, Inc. site in West Bend, Wisconsin. Individual subsections address specific assessment activities including field observations, sampling procedures, and chain of custody procedures.

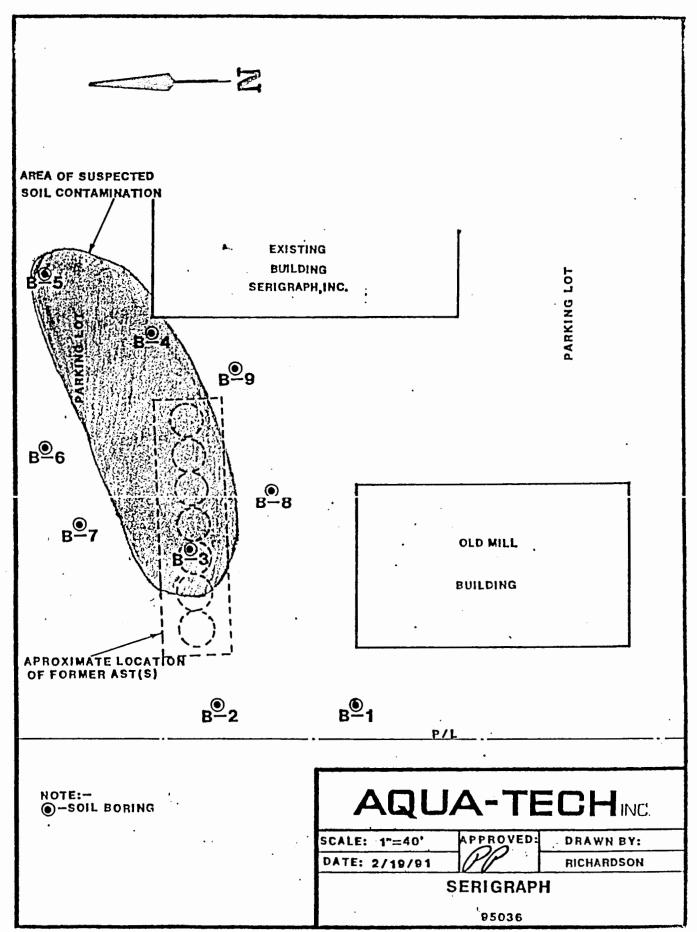
## 3.2 Soil Borings

Nine soil borings were completed by Aqua-Tech, Inc. on February 1, 1991. The purpose of the borings was to identify and delineate the extent of soil contamination which appears to be associated with the ASTs formerly located at the site. Soil Sample Locations

Soil borings B-1 and B-2 (See Figure 3-1) were located near the west property line. The purpose of these borings was to determine if petroleum products from a small tank farm located west of the Serigraph facility could have possibly migrated onto the Serigraph property. Soil borings B-3 and B-4 were completed in the vicinity of the former ASTs. Borings B-5, B-6, B-7, B-8, and B-9 were completed around the perimeter of the area identified as being contaminated. The purpose of borings B-5 through B-9 was to determine the horizontal extent of soil contamination.

# Soil Sample Procedures

One soil sample was selected from each boring and retained for laboratory analysis. The soil sample which indicated the highest concentrations of VOCs based on field screening with the PID was selected. If field screening with the PID failed to indicate the presence of VOCs, the soil sample collected immediately above the groundwater table was



selected. The depth interval and PID reading of each sample selected for laboratory analysis is as follows:

Soil Sample	Boring	Depth (feet)	PID Reading(ppm)
SB-1	B-1	10-12	0
SB-2	B-2	10-12	0
SB-3	B-3	0-5	50
SB-4	B-4	7-9	150
SB-5	B-5	3-5	2
SB-6	B-6	10-12	0
SB-7	B-7	10-12	0
SB-8	B-8	10-12	0
SB-9	B-9	10-12	0

Groundwater was encountered in each boring at a depth of 11.0 feet. However, no water samples could be collected due to sand infiltration into the borehole which clogged the bailer.

Subsurface soil samples were collected using a truck mounted rotary drill equipped with hollow stem augers and a two inch diameter, 24 inch split spoon sampler. The split spoon sampler was advanced by conventional methods, including the attachment of the sampler to an AW rod and standard 140 pound hammer.

All drilling tools and equipment were washed with high pressure steam equipment prior to the start of sampling work. All sampling equipment was decontaminated with an alconox and reagent water solution between sampling points to prevent cross contamination.

Samples selected for laboratory analyses were stored in clean, teflon<sup>TM</sup> lidded 4 ounce jars and cooled to 4°C for transport to the laboratory. Additional subsurface soil samples were collected, warmed, and field screened with a PID.

The depth and PID reading for each sample was recorded on soil profile logs (See Appendix B).

Upon completion of sampling, the borehole was completely backfilled with bentonite and abandoned according to Wisconsin Administrative Code N.R. 141.25 (See Appendix B).

# 3.3 Chain of Custody Procedures

This section describes procedures used for sample identification and chain of custody. The purpose of these procedures is to ensure security and integrity of the sample from collection through transportation, storage, and analysis.

Sample identification documents are carefully prepared so that sample identification and chain of custody are maintained and sample disposition is controlled. Sample identification documents include:

- \* Field Notebooks
- \* Sample Labels
- \* Chain of Custody Records

Each sample is labeled, chemically or physically preserved, and sealed immediately after collection. To minimize handling of sampling containers, a label is filled out prior to sample collection. The sample label is completed using waterproof ink and then firmly affixed to the sample container. The sample label provides the following information:

- \* Location
- \* Sample Number
- Date and Time of Collection
- \* Analysis Required
- \* Name of Sampler

A chain of custody record is fully completed in triplicate by the Aqua-Tech sampler immediately following sample collection.

## Transfer of Custody Shipment

The cooler in which the samples are packed is accompanied by the chain of custody record. When transferring samples, the individuals relinquishing and receiving them sign, date, and note the time on the chain of custody record. This record documents sample custody.

### Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped sample and verifies the sample identification number matches that on the chain of custody record. A copy of the completed chain of custody record is retained by the laboratory until analyses are complete. The record is then transferred to the site file with the analytical results.

### 4.0 ANALYTICAL PROCEDURES AND RESULTS

#### 4.1 Introduction

This section includes results of chemical analyses of Aqua-Tech collected soil samples from soil borings B-1 through B-9 for total petroleum hydrocarbons (TPH) as gasoline, diesel fuel, and fuel oil. Soil sample SB-4 was also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Samples were analyzed at the Aqua-Tech, Inc. Laboratory in Port Washington, Wisconsin.

### 4.2 Analytical Procedures

Soil samples were analyzed for TPH and BTEX by the Modified California Method, and EPA Method 8240, respectively.

Analytical methodology references for each sampling task contain specific quality control (QC) criteria associated with the particular methods. These specific requirements include calibration and QC samples and are described in detail within the methods. Daily performance tests and demonstration of precision and accuracy are required.

- 4.3 Results of Chemical Analyses of Aqua-Tech Collected Samples

  Chemical analyses of soil samples SB-1, SB-2, SB-6, SB7, SB-8, and SB-9 yielded the following results:
  - \* No petroleum hydrocarbons as gasoline were detected above the 1.0 ug/g laboratory detection limit.
  - \* No petroleum hydrocarbons as diesel fuel were detected above the 10.0 ug/g laboratory detection limit.

Chemical analyses of soil samples SB-3, SB-4, and SB-5 yielded the following results:

- \* Petroleum hydrocarbon levels of 30 ug/g as gasoline and 3,970 ug/g as diesel fuel were identified in soil sample SB-3.
- \* Petroleum hydrocarbon levels of 198 ug/g as gasoline and 10,770 ug/g as diesel fuel were identified in soil sample SB-4. Toluene, ethylbenzene, and xylenes were detected at concentrations of 1.3 ug/g, 1.5 ug/g, and 37 ug/g, respectively.
- \* Petroleum hydrocarbon levels of 14.0 ug/g as diesel fuel was identified in soil sample SB-5.

  No petroleum hydrocarbons as gasoline were identified in soil sample SB-5 above the 1.0 ug/g laboratory detection limit.

Table 4-1 contains the TPH laboratory results of the collected soil samples. Complete laboratory results are provided in Appendix C. All results were calculated on a dry weight basis as required by WDILHR.

TABLE 4-1

## CHEMICAL ANALYSES TPH) OF SOIL BORING SOIL SAMPLES

### SERIGRAPH, INC.

### WEST BEND, WISCONSIN

DATE COLLECTED: 2/1/91

Sample Number	Depth Interval (feet)	Tctal Petroleum Hydrocarbons as gasoline(ug/g) <sup>1</sup>	Total Petroleum Hydrocarbons as diesel fuel(uq/q)	Maximum Photoionization Detector Readings (ppm)
SB-1	10-12	ND <sup>2</sup>	ND <sup>3</sup>	0
SB-2	10-12	ND <sup>2</sup>	ND <sup>3</sup>	0
SB-3	0-5	30.04	3,970.0	50
SB-4	7-9	198.0	10,770.0	150
SB-5	3-5	ND <sup>2</sup>	14.0	2
SB-6	10-12	ND <sup>2</sup>	ND <sup>3</sup>	0
SB-7	10-12	ND <sup>2</sup>	ND <sup>3</sup>	0
SB-8	10-12	ND <sup>2</sup>	ND <sup>3</sup>	0
SB-9	10-12	ND <sup>2</sup>	ND <sup>3</sup>	0

All results calculated on a dry weight basis.

mg/kg

Not detected above the 1.0 ug/g laboratory detection limit.

Not detected above the 10.0 ug/g laboratory detection limit.

Ten ug/g is the maximum level of TPH contamination allowed in soil before remediation is required by the Wisconsin Department of Industry, Labor, and Human Relations.

## 5.0 DISCUSSION OF ASSESSMENT RESULTS

#### 5.1 Introduction

This section discusses data and information that apply to observed and potential contamination at the Serigraph, Inc. site.

### 5.2 Soil

Based on the results of the Phase III Environmental Assessment, Aqua-Tech, Inc. estimates that an area approximately 140 feet long and 50 feet wide is contaminated by petroleum hydrocarbons above the 10 ug/g Wisconsin DILHR remedial action level. Contamination intercepts the groundwater table at 11.0 feet. The total volume of contaminated soil at the site is estimated at 2,850 yd<sup>3</sup>.

The zone of contamination coincides with the location of the former ASTs at the site. The absence of VOCs and TPHs in samples field screened and chemically analyzed from borings B-1 and B-2 suggest that the contamination identified at the site is not migrating from the tank farm west of the Serigraph facility.

The contamination that has been identified is most likely the result of petroleum releases at the bulk petroleum storage facility from 1958 to 1983.

### 5.3 Groundwater

It was not possible to collect a groundwater sample during completion of the soil borings due to sand entering the boring and subsequently clogging the bailer. Based on PID readings of soil samples collected at the soil/watertable interface, it is possible that groundwater has been impacted by petroleum products.

The City of West Bend is serviced by the West Bend Municipal Water System. There are no known private wells or

municipal wells within the vicinity which are likely to be impacted by this release.

#### 6.0 RECOMMENDATIONS

Aqua-Tech, Inc. recognizes two viable options for the remediation of petroleum contaminated soils at the site. Excavation and landfill disposal or excavation and asphalt incorporation are the two options Aqua-Tech, Inc. considers feasible under the site specific conditions. Laboratory analyses indicate that the soil is heavily contaminated with diesel fuel/fuel oil, therefore, soil venting is not considered a viable and/or practical alternative. The landfilling and asphalt incorporation options are briefly discussed below.

#### Landfill Disposal

The site will be excavated until all contaminated soil is removed. The nearest landfill accepting petroleum contaminated soil is Parkview Landfill in Menomonee Falls, Wisconsin. Aqua-Tech, Inc. estimates the cost of landfilling the soil and all associated costs (excluding groundwater remediation activities) to be \$194,500. An itemized list of estimated expenses associated with this remedial option is provided in Appendix D.

#### Asphalt Incorporation

The site will be excavated until all contaminated soil is removed. The nearest asphalt plant accepting petroleum contaminated soil is the Payne & Dolan facility in Sussex, Wisconsin. Aqua-Tech, Inc. estimates the cost of asphalt incorporation and all associated costs (excluding groundwater remediation activities) to be \$285,000. An itemized list of estimated expenses associated with this remedial option is provided in Appendix E.

Regardless of which soil remediation techniques are implemented, Aqua-Tech, Inc. recommends the installation of a minimum of four groundwater monitoring wells to determine if groundwater has been impacted by this release. An estimated cost to install four groundwater monitoring wells and complete one round of sampling is \$4,200.

APPENDIX A

FIELD PHOTOGRAPHY LOG SHEET PAGE 1 OF 3 SITE NAME: Serigraph, Inc. DATE: 2/1/91 TIME: 3:30 p.m. DIRECTION OF PHOTOGRAPH: West WEATHER CONDITIONS: Sunny 40°F PHOTOGRAPHED BY: Peter E. Pavalko SAMPLE ID: (If Applicable): SB-1 DESCRIPTION: Pictured is the location of soil boring B-1 near the west property line. DATE: 2/1/91 TIME: 3:30 p.m. DIRECTION OF PHOTOGRAPH: Northwest WEATHER CONDITIONS: Sunny 40°F PHOTOGRAPHED BY: Peter E. Pavalko

DESCRIPTION: Pictured is the location of soil boring B-2 near the west property

SAMPLE ID:

\_SB-2

line.

(If Applicable):

#### FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Serigraph, Inc.

PAGE 2 OF 3

DATE: 2/1/91

TIME: 3:30 p.m.

DIRECTION OF PHOTOGRAPH:

Northeast

WEATHER CONDITIONS:

Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID: (If Applicable):

SB-3



DESCRIPTION: Pictured is the location of soil boring B-3.

DATE: 2/1/91

TIME: 3:30 p.m.

DIRECTION OF PHOTOGRAPH:

East-Northeast

WEATHER CONDITIONS:

Sunny

40°F

PHOTOGRAPHED BY:

Peter E. Pavalko

SAMPLE ID: (If Applicable):

SB-4, SB-8, SB-9

DESCRIPTION: Pictured are the locations of soil borings B-4, B-8, and B-9.

The Serigraph, Inc. plant can be seen on the right of this photograph.



## FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Serigraph, Inc.	PAGE 3 OF 3	
	· · · · · · · · · · · · · · · · · · ·	
DATE: 2/1/91		
TIME: 3:30 p.m.		
·		ſιE
DIRECTION OF		
PHOTOGRAPH:		T.
East		
WEATHER CONDITIONS:	63	
40°F		
Sunny		
PHOTOGRAPHED BY:		-
Peter E. Pavalko		10. 2.
		d.
SAMPLE ID: (If Applicable):		-78
	The state of the s	
SB-5,SB-6,SB-7		
DESCRIPTION: Pictured are the locations	of soil borings B-5, B-6, and B-7 near	
the north property line.		

APPENDIX B

SOIL PROFILE LOG AQUA-TECH, INC PROJECT: SERIGRAPH, INC 140 S. PARK ST. LOCATION: 760 INDIANA AVENUE PORT WASHINGTON, WI 53074 TELEPHONE: PROJECT#: (414) 284-5746 (414) 375-0407 (MILW METRO) ATI WO#: 95036 SURFACE ELEVATION BORING B-1 SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS (PPM) (FT) NO. MOISTURE REC **HEADSPACE** (BLOWS) 0.0-0.0' - 5.0' GRAVEL, SILT, SAND CUTTINGS DRY SANDY SILT 5.0' - 7.0' BROWN-TAN SAND (5" LAYER DK SILT) 5.0-0 DRY 7.0' - 10.0' TAN-YELLOWISH SAND DRY -CUTTINGS SL MOIST 10.0' - 12.0' TAN SAND - WATER BEARING 10.0 0 WET SB-1 12.0 TERMINATED BORING AT 12.0' \*SOIL SAMPLE SB-1: 10.0' - 12.0' \*GROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED 15.0-\*COULD NOT COLLECT WATER SAMPLE, DUE TO SAND FILLING IN AUGER 20.0-25.0-WATER LEVEL OBSERVATIONS GENERAL INFORMATION COMPLETION DATE 02/01/91 11.0'▽ START DATE 02/01/91 WHILE DRILLING DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER LOGGER: DEPTH TO CAVE-IN ----

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## WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5B Rev. 7-89

(I) GENERAL INFORMATION	(2) FACILITY NAME
Well Drilliek Terchele WASHINGTON	SERIGRAPH INC.
SE 1/4 of SW 1/4 of Sec. 13; T. 1 N; R. 19 W	Present Well Owner
(If applicable)  Gov't Lot Grid Number	Succi or Route
Grid Location	City, State, Zip Code
fi. N. S., fi. E. W.	Facility Well No. and/or Name (II Applicable) WI Unique Well No.
WEST BEND	Reason For Abandonment
Street Address of Well 760 INDIANA AVE	ENVIRONMENTAL SOIL BORING COMPLETED
City, Village WEST BEND, WI	Date of Abandonment FEB 1, 1991
WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Original Well/Drillhole/Borehole Construction Completed On	(4) Depth to Water (Feet) 11.0
(Date) <u>FEB. 1, 1991</u>	Pump & Piping Removed? Yes No Not Applicable Liner(s) Removed? Yes No Not Applicable
Monitoring Well   Construction Report Available?	Screen Removed? Yes No Not Applicable
☐ Water Well	Casing Left in Place? Yes No
Drillhole	If No, Explain
Borehole	Was Casing Cut Off Below Surface? Yes No
Construction Type:	Did Sealing Material Rise to Surface? Yes No
Driven (Sandpoint) Dug	Did Material Settle After 24 Hours? Yes No N/A
Other (Specify)	If Yes, Was Hole Retopped? Yes No
Formation Type:	(5) Required Method of Placing Sealing Material
Unconsolidated Formation	Conductor Pipe-Gravity Conductor Pipe-Pumped  Dump Bailer Other (Explain)
Total Well Depth (ft.) 12.0 Casing Diameter (ins.) NA	(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? Yes No Unknown	, <del>-</del> , - , -
If Yes, To What Depth? Feet	Chipped Bentonite
(7) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight
	or Volume
BENTUNITE CHIPS	Surface 12.0 3-4 100% BENTUNITE
	50/lb SACKS
	· · · · · · · · · · · · · · · · · · ·
(b) Comments:	
(9) Name of Person or Firm Doing Sealing Work	(10) FOR DNR OR COUNTY USE ONLY
AQUA-TECH, INC.	Date Received/Inspected District/County
Signature of Person Doing Work Date Signed	
Street or Route Telephone Number	Reviewer/Inspector
140 S. PARK ST. (414) 284-5746	Follow-up Necessary
City, State, Zip Code PORT WASHINGTON, WI 53074	

AQUA-TECH, INC SOIL PROFILE LOG SERIGRAPH, INC 140 S. PARK ST. PROJECT: PORT WASHINGTON, WI 53074 LOCATION: 760 INDIANA AVENUE TELEPHONE: PROJECT#: (414) 284-5746 (414) 375-0407 (MILW METRO) ATI WO#: 95036 SURFACE ELEVATION BORING B-2 SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS NO. MOISTURE REC (PPM) (FT) **HEADSPACE** (BLOWS) 0.0-0.0' - 7.0' TAN SAND CUTTINGS DRY 5.0 DRY-0 MOIST 7.0' - 10.0' DARK SILT YELLOWISH-TAN SAND DRY -CUTTINGS MOIST 10.0' - 12.0' TAN SAND - WATER BEARING SB-2 WET 0 12.0 TERMINATED BORING AT 12.0' \*SOIL SAMPLE SB-2: 10.0' - 12.0' \*GROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED 15.0 20.0-25.0-WATER LEVEL OBSERVATIONS GENERAL INFORMATION 11.0'▽ 02/01/91 START DATE 02/01/91 WHILE DRILLING COMPLETION DATE DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER LOGGER: ∠ DEPTH TO CAVE-IN ----

(I) GENERAL INFORMATION	(2) FACILITY NAME		
W.Ch. Drillhele, Berchele Lecation County WASHINGTON	Original Wich Owner (II Known) SERIGRAPH INC.		
SE 1/4 of SW 1/4 of Sec. 13 ; T. 1 N; R. 19 W	Present Well Owner		
(If applicable)  Gov't Lot Grid Number	Sucet or Route		
Grid Location	City, State, Zip Code		
fi N. S., fi E. W.	Facility Well No. and/or Name (II Applicable) WI Unique Well No.		
Street Address of Well	Reason For Abandonment		
160 INDIANA HUE	ENVIRONMENTAL SOIL BORING COMPLETED		
City, Village WEST BEND, WI	Date of Abandonment FEB 1, 1991		
WELL/DRILLHOLE/BOREHOLE INFORMATION			
(3) Original Well/Drillhole/Borehole Construction Completed On  (Date) FER 1 199	(4) Depth to Water (Feet) 11.0		
(Date) <u>FEB. 1, 1991</u>	Pump & Piping Removed? Yes No Not Applicable Liner(s) Removed? Yes No Not Applicable		
Monitoring Well   Construction Report Available?	Screen Removed? Yes No No Applicable		
☐ Water Well Yes ☐ No	Casing Lest in Place? Yes No		
Drillhole	If No, Explain		
☐ Borehole	Was Casing Cut Off Below Surface? Yes No		
Construction Type:	Did Sealing Material Rise to Surface? Yes No /		
Drilled Driven (Sandpoint) Dug	Did Material Settle After 24 Hours? Yes No N/A		
Other (Specify)	If Yes, Was Hole Retopped? Yes No		
Formation Type:	(5) Required Method of Placing Sealing Material		
Unconsolidated Formation	Conductor Pipe-Gravity Conductor Pipe-Pumped		
BORING Total Well Depth (ft.) 12.0 Casing Diameter (ins.) NA	Dump Bailer Other (Explain)  (6) Sealing Materials For monitoring wells and		
(From groundsurface)	Neat Cement Grout monitoring well boreholes only		
(Lifeting Realization)	Sand-Cement (Concrete) Grout		
Casing Depth (ft.) N/A	Concrete Bentonite Pellets		
W W A A C C 42	Clay-Sand Slurry Granular Bentonite		
Was Well Annular Space Grouted? Yes No Unknown If Yes, To What Depth? Feet	☐ Bentonite-Sand Slurry  ☐ Chipped Bentonite		
(7) Sealing Material Used	From (F1.) To (F1.) Sacks Sealant or Volume Mix Ratio or Mud Weight		
BENTUNITE CHIPS	Surface 12.0 3-4 100% BENTUNITE		
	50/lb SACKS		
	SACKS		
(8) Comments:			
(9) Name of Person or Firm Doing Sealing Work	(10) FOR DNR OR COUNTY USE ONLY		
AQUA-TECH. INC.	Date Received/Inspected District/County		
Signature of Person Doing Work, Date Signed	D. C. C. C. C. C. C. C. C. C. C. C. C. C.		
Street or Koute Telephone Number	Reviewer/Inspector		
1/40 S. PARK ST. (414) 284-5746	Follow-up Necessary		
City, State, Zip Code PORT WASHINGTON, WI 53074			
[ ON 1 WHITH WAY , WY 3 7017	;		

AQUA-TECH, INC SOIL PROFILE LOG 140 S. PARK ST. PROJECT: SERIGRAPH, INC PORT WASHINGTON, WI 53074 LOCATION: 760 INDIANA AVENUE TELEPHONE: PROJECT:: (414) 284-5746 (414) 375-0407 (MILW METRO) ATI WO#: 95036 <u>B-</u>3 BORING SURFACE ELEVATION SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS MOISTURE REC NO. (PPM) (FT) (BLOWS) **HEADSPACE** 0.0 0.0' - 5.0' GREY SAND 50 CUTTINGS DRY SB-3 5.0' - 7.0' GREYISH-TAN SAND 25 DRY 7.0' - 10.0' TAN SAND DRY 15 MOIST 10.0' - 12.0' YELLOWISH-TAN SAND (WATER BEARING) WET 0 12.0 TERMINATED BORING AT 12.0' \*SDIL SAMPLE SB-3: 3.0'(FROM CUTTINGS = 50 PPM)
\*GROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED 15.0-20.0-25.0-WATER LEVEL OBSERVATIONS GENERAL INFORMATION 11.0'▽ WHILE DRILLING START DATE 02/01/91 COMPLETION DATE 02/01/91 DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER LOGGER: DEPTH TO CAVE-IN ----

(I) GENERAL INFORMATION		JTY NAME			
Well/Drillhele/Ferchele Location County		ERIGRAPH			
SE 1/4 of Sw 1/4 of Sec. 13 ; T.	m - Presen	Well Owner			
(If applicable)  Gov't Lot	Street Street	or Route			
Grid Location	City, S	State, Zip Code			
fi N. S., Civil Town Name WEST BEN	ft. E. W. Faculity	Well No. 2nd/or Name (	li Applicable) Wi Unique Well No.		
Court Address of Wall	A Reason	For Abandonment	L BORING COMPLETED		
City, Village WEST BEND		t A haridonment	1, 1991		
WELL/DRILLHOLE/BOREHOLE INFORM		ren.	<del></del>		
(3) Original Well/Drillhole/Borehole Construction (Date) FEB. 1 1991  Monitoring Well  Water Well  Drillhole  Borehole  Construction Type: Drilled  Other (Specify)  Formation Type:  Unconsolidated Formation  Boring  Total Well Depth (ft.) 12.0 Casing Dial (From groundsurface)	on Completed On  (4) Depth Pump Liner(s Screen Casing If No,  Was C Did Se Did M If Ye  (5) Require Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On  (6) Sealin No Completed On Completed	A   Depth to Water (Feet)			
(7) Seeling Material Used	From (Ft.	To (Ft.) No. Yard Sacks Sea or Volum	lant Mix Ratio or Mud Weight		
BENTUNITE CH	IPS Surface	12.0 3-4 50/16 SACKS	100% BENTUNITE		
(b) Comments:					
(9) Name of Person or Firm Doing Sealing Work  AQUA - TECH, TWC  Signature of Person Doing Work Date Signature of Person Doing Work Date Signature of Route Telepho	gned Z-ZZ-91 Rev one Number	FOR DNR OR  Received/Inspected	District/County		
140 S. PARK ST. (414) City, State, Zip Code Point IN ACHIAIL TRA	284-5746 Follow	ow-up Necessary			

INC SOIL PROFILE AQUA-TECH, PROJECT: 140 S. PARK ST. SERIGRAPH, INC PORT WASHINGTON, WI 53074 LOCATION: 760 INDIANA AVENUE TELEPHONE: PROJECT#: (414) 284-5746 (414) 375-0407 (MILW METRO) ATI WO#: 95036 SURFACE ELEVATION BORING B-4 SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS MOISTURE REC (PPM) (FT) NO. (BLOWS) **HEADSPACE** -0.0-0.0' - 3.0'DEFINITE PETROLEUM ODOR SILTY SAND & GRAVEL 70 3.0' - 5.0' TAN GREY SAND, TRACE OF GRAVEL DRY 70 5.0' - 7.0' 5.0-TAN-GREY SAND DRY 50 7.0' - 9.0' BLACK SILT, SAND 150 SB-4 DRY 10.0' - 12.0' BLACK SILT, TAN SAND (VERY MOIST TO WET) WET 140 12.0' - 14.0' TAN SAND - WATER BEARING WET 1 14.0-TERMINATED BORING AT 14.0' 15.0-\*SOIL SAMPLE SB-4: 7.0' - 9.0' \*GROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED \*NO WATER SAMPLE COLLECTED 20.0-25.0-WATER LEVEL OBSERVATIONS GENERAL INFORMATION <u>11.0'</u>∇ START DATE 02/01/91 02/01/91 WHILE DRILLING COMPLETION DATE DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER DEPTH TO CAVE-IN \_---

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(i) GENERAL INFORMATION	(2) FACILITY NAME
Well/Drillhele/Ecrebele Location WASHINGTON	Organia Well Owner (II Known) SERIGRAPH INC.
SE 1/4 of SW 1/4 of Sec. 13 ; T. 1 N; R. 19 W	Present Well Owner
(If applicable)  Gov't Lot Grid Number	Succt or Route
Grid Location  ft. N. S., ft. E. W.	City, State, Zip Code
Civil Town Name WEST BEND	Facility Well No. and/or Name (II Applicable) WI Unique Well No.
Street Address of Well 760 INDIANA AVE	Reason For Abandonment ENVIRONMENTAL SOIL BORING COMPLETED
City, Village WEST BEND, WI	Date of Abandonment FEB 1, 1991
WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Original Well/Drillhole/Borehole Construction Completed On  (Date) FEB. 1, 199  Monitoring Well Construction Report Available?  Water Well Yes No	(4) Depth to Water (Feet) 11.0  Pump & Piping Removed? Yes No Not Applicable Liner(s) Removed? Yes No Not Applicable Screen Removed? Yes No Not Applicable Casing Left in Place? Yes No
Drillhole Borehole	If No, Explain  Was Casing Cut Off Below Surface? Yes No Did Sealing Material Rise to Surface? Yes No
Construction Type:  Drilled Driven (Sandpoint) Dug  Other (Specify)	Did Material Settle After 24 Hours?  If Yes, Was Hole Retopped?  Yes No  Yes No  (5) Required Method of Placing Sealing Material
Formation Type:  Unconsolidated Formation  Bedrock  RORING	Conductor Pipe-Gravity Conductor Pipe-Pumped Dump Bailer Other (Explain)  (6) Sealing Materials For monitoring wells and Neat Cement Grout monitoring well boreholes only Sand-Cement (Concrete) Grout
Casing Depth (ft.)  Was Well Annular Space Grouted?  If Yes, To What Depth?  Feet	Concrete Bentonite Pellets Clay-Sand Slurry Granular Bentonite
(7) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant or Volume Mix Ratio or Mud Weight
BENTUNITE CHIPS	SWFace 14.0 3-4 100% BENTUNITE
	SACKS
(E) Comments:	
(9) Name of Person or Firm Doing Sealing Work  AQUA-TECH, Zwc.  Signature of Person Doing Work  Date Signed  Z-22-91	(10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected District/County  Reviewer/Inspector
Street or Koute  140 S. PARK ST.  City, State, Zip Code  Proceedings of the Code Telephone Number  (914) 284-5746	Follow-up Necessary

AQUA-TECH, INC SOIL PROFILE LOG 140 S. PARK ST. PROJECT: SERIGRAPH, INC PORT WASHINGTON, WI 53074 LOCATION: 760 INDIANA AVENUE TELEPHORE: PROJECT#: (414) 284-5746 (414) 375-0407 (MILW METRO) ATI WO#: 95**0**36 BORING <u>B-5</u> SURFACE ELEVATION SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS NO. MOISTURE REC (PPM) (FT) (BLOWS) **HEADSPACE** 0.0 0.0' - 3.0' SAND 3.0' - 5.0' SAND, TRACE OF FINE GRAVEL 2 SB-5 DRY 5.0' - 7.0' TAN SAND 0 DRY 7.0' - 9.0' BLACK SILT LAYER 7.0' - 8.0' YELLOW SAND DRY-0 MOIST 10.0' - 12.0' TAN, WATER BEARING SAND 0 WET 12.0 TERMINATED BORING AT 12.0' \*SOIL SAMPLE SB-5: 3.0' - 5.0' \*GROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED 15.0-\*NO GROUNDWATER SAMPLE COLLECTED 20.0-25.0-WATER LEVEL OBSERVATIONS GENERAL INFORMATION <u>11.0'</u>∇ START DATE 02/01/91 02/01/91 WHILE DRILLING COMPLETION DATE DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER DEPTH TO CAVE-IN ----LOGGER:

(I) GENERAL INFORMATION	(2) FACILITY NAME			
Well/Drillbele/Forchele County W/ASHINGTON	Original Will Os nor (I! Known) SERIGRAPH INC.			
SE 1/4 of SW 1/4 of Sec. 13; T. 1 N; R. 19	1. 1. 10.10.2.			
(If applicable)	Suect or Route			
Grid Location Grid Number	City, State, Zip Code			
fi. №. S., fi. E. W				
Civil Town Name WEST BEND	Faculty Well No. and/or Name (II Applicable) WI Unique Well No.			
Street Address of Well 760 INDIANA AVE	Reason For Abandonment ENVIRONMENTAL SOIL BORING COMPLETED			
City, Village WEST BEND, WI	Date of Abandonment FEB 1, 1991			
WELL/DRILLHOLE/BOREHOLE INFORMATION	,			
(3) Original Well/Drillhole/Borehole Construction Completed On  (Date) FEB. 2, 1991	(4) Depth to Water (Feet) 11.0  Pump & Piping Removed? Yes No Not Applicable Liner(s) Removed? Yes No Not Applicable Screen Removed? Yes No Not Applicable			
☐ Monitoring Well ☐ Water Well ☐ Drillhole ☐ Borehole ☐ Construction Report Available? ☐ Yes ☐ No	Screen Removed?  Casing Left in Place?  If No, Explain			
Construction Type: Drilled Driven (Sandpoint) Dug Other (Specify)	Was Casing Cut Off Below Surface? Yes No Did Sealing Material Rise to Surface? Yes No Did Material Settle After 24 Hours? Yes No If Yes, Was Hole Retopped? Yes No  (5) Required Method of Placing Sealing Material Conductor Pipe-Gravity Conductor Pipe-Pumped Dump Bailer Other (Explain)  (6) Sealing Materials For monitoring wells and monitoring well boreholes on Sand-Cement Grout monitoring well boreholes on Sand-Cement (Concrete) Grout Concrete Bentonite Pellets Clay-Sand Slurry Bentonite-Sand Slurry Chipped Bentonite			
Formation Type:  Unconsolidated Formation  BoRING  Total Well Depth (ft.)   2.0 Casing Diameter (ins.) N/A  (From groundsurface)  Casing Depth (ft.) N/A  Was Well Annular Space Grouted? Yes No Unknow  If Yes, To What Depth?				
(7) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight or Volume			
BENTUNITE CHIPS	Surface 12.0 3-4 100% BENTUNITE			
	SO/Ib SACKS			
(E) Comments:				
(9) Name of Person or Firm Doing Sealing Work  AGUA - TECH, Two.  Signature of Person Doing Work  Signature of Person Doing Work  Street or Route  140 S. PARK ST.  Telephone Number  (918) 284-5746	(10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected District/County  Reviewer/Inspector  Follow-up Necessary			
City, State, Zip Code PORT WASHINGTON, WI 53074				

					SHEET 1 OF 1
AQU	JA-TE	CH	, IN	C	SOIL PROFILE LOG
140 S	. PARK ST	•			PROJECT: SERIGRAPH, INC
PORT I	WASHINGTO	N, W	I 53074		LOCATION: 760 INDIANA AVENUE
e TELEPI	HONE:				PROJECT#:
(414) (414)	284-5746 375-0407	(MI	LW METRO	)	ATI WO#: 95036
ВО	RING B-	5			SURFACE ELEVATION
	SAMP	LE	s		
NO.	MOISTURE	REC	PID LEV	ELS DEPTH (FT)	DESCRIPTION AND REMARKS
	(BLOWS)		HEADSP	ACE 0.0	
			CUTTING		0.0' - 3.0' TAN SAND 3.0' - 5.0' SAND
:	DRY		0		
	DRY		0	5.0	5.0' - 7.0' SAND, SOME GRAVEL 7.0' - 10.0' SAND
	DRY		O CUTTING		
SB-6	WET		0	10.0- \[\sigma\]	10.0' - 12.0' SAND
				12.0 - - 15.0 - - - - - - - - - - - - -	
WATER	LEVEL OBSE			······································	RAL INFORMATION
WHILE DRILLING 11.0' $\nabla$ START DATE 02/01/91 COMPLETION DATE 02/01/91					
	TO WATER				METHOD; HOLLOW STEM AUGER; SPLIT SPOON SAMPLING
DEPTH TO CAVE-IN LOGGER: Logical Secretarian Logger:					

OF GENERAL INFOR	MATION			(2) FACILI	) Y NAME				
Well/Pullhole/Forel Location		WASH	INGTON			(H Known) RAPH	INC.		
SE 1/4 of SW 1	/4 of Sec		W*		Well Owner				
(If applicable)	Sov't Lot		Grid Number	Street or	Route				
Grid Location	N. □ s.		_ ft.	City, St	ate, Zip Cod	le			
Civil Town Name		BEND			Well No. 200	d/or Name (II A	pplicable) WI	Unique Well No.	
Street Address of Wel			NA AVE		For Abandon		BORING C	COMPLETED)	
City, Village W		BEND,		Date of	Abandonmer	FEB 1			
WELL/DRILLHOLE/B									
(3) Original Well/Drillho (Date)	B. 1	Construction (	Completed On		Water (Fee Piping Rem Removed?	oved?	Yes No No	Not Applicable Not Applicable	
Monitoring Well Water Well Drillhole			Report Available?	Screen Removed?				No Not Applicable	
☐ Borehole  Construction Type: ☐ Drilled ☐ Other (Specify)	☐ Drive	n (Sandpoint)	☐ Dug					N/A	
Formation Type:  Unconsolidated F BORING  Total Well Depth (ft.)  (From groundsurface)  Casing Depth (ft.)  Was Well Annular Sp If Yes, To What	N/A							ring wells and well boreholes only te Pellets	
(7)	Sealing Mat	erial Used		From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio	or Mud Weight	
BENTUN	TE	CHIP	· S	Surface	12.0	3-4 50/16 SACKS	100%	BENTUNITE	
						·			
(8) Comments:								•	
Signature of Person I	ECH.	Date Signed	2-22-91	Revi	FOR Received/In cwer/Inspect	01	DUNTY USE District/		
City, State, Zip Code				10110	up Meces				

AQUA-TECH, INC SOIL PROFILE LOG 140 S. PARK ST. SERIGRAPH, INC PROJECT: PORT WASHINGTON, WI 53074 LOCATION: 760 INDIANA AVENUE TELEPHONE: PROJECT#: (414) 284-5746 (414) 375-0407 (MILW METRO) ATI WO#: 95036 B-7 SURFACE ELEVATION BORING SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS (FT) NO. MOISTURE REC (PPM) (BLOWS) **HEADSPACE** 0.0-0.0' - 7.0' TAN SAND CUTTINGS CUTTINGS DRY 5.0-0 DRY 7.0' - 10.0' BLACK SILT, SAND CUTTINGS DRY 10.0' - 12.0' TAN-YELLOWISH SAND 10.0 WET 0 SB-7 12.0 TERMINATED BORING AT 12.0' \*SOIL SAMPLE SB-7: 10.0' - 12.0' \*SGROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED 15.0~ \*NO GROUNDWATER SAMPLE COLLECTED 20.0-25.0~ WATER LEVEL OBSERVATIONS GENERAL INFORMATION 11.0'∇ WHILE DRILLING START DATE 02/01/91 COMPLETION DATE 02/01/91 DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER DEPTH TO CAVE-IN ----

(I) GENERAL INFORMATION	(2) FACILITY NAME			
Well/Drillhole/Ferchele Location County W/ASKINGTON	Original Well Owner (It Known) SERIGRAPH INC.			
SE 1/4 of SW 1/4 of Sec. 13; T. 1 N; R. 19	Present Well Owner			
(If applicable)  Gov't Lot Grid Number	Street or Route			
Grid Location	City, State, Zip Code			
Tivil Town Name  WEST BEND	Facility Well No. and/or Name (II Applicable) WI Unique Well No.			
Street Address of Well 760 INDIANA AVE	Reason For Abandonment ENVIRONMENTAL SOIL BORING COMPLETED			
City, Village WEST BEND, WI	Date of Abandonment FEB 1, 1991			
WELL/DRILLHOLE/BOREHOLE INFORMATION	·			
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) FEB. 1, 1991  [Construction Report Available?]	(4) Depth to Water (Feet)			
☐ Monitoring Well ☐ Water Well ☐ Drillhole ☐ Borehole ☐ Construction Report Available? ☐ Yes ☐ No	Casing Lest in Place? Yes No			
Construction Type:  Drilled	Was Casing Cut Off Below Surface?			
Formation Type:  Unconsolidated Formation				
(7) Sealing Material Used	From (Fi.) To (Fi.) No. Yards, Sacks Sealant or Wix Ratio or Mud Weight or Volume			
BENTUNITE CHIPS	Surface 12.0 3-4 100% BENTONITE  50/16 SACKS			
(b) Comments:				
(9) Name of Person or Firm Doing Sealing Work  PQUA - TECH, TVC.  Signature of Person Doing Work  Street or Route  YOS. PARK ST.  City, State, Zip Code  Poul Tala ACHIAL TOA WIT \$3074	(10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected District/County  Reviewer/Inspector  Follow-up Necessary			

AQUA-TECH, INC SOIL PROFILE LOG 140 S. PARK ST. PROJECT: SERIGRAPH, INC PORT WASHINGTON, WI 53074 LOCATION: 760 INDIANA AVENUE TELEPHONE: PROJECT#: (414) 284-5746 (414) 375-0407 (MILW METRO) 95036 ATI WO#: BORING B-8 SURFACE ELEVATION SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS (FT) NO. MOISTURE REC (PPM) (BLOWS) **HEADSPACE** -0.0-0.0' - 12.0' SAND 0 CUTTINGS DRY DRY 0 5.0-0 CUTTINGS 10.0 0 WET SB-8 12.0 TERMINATED BORING AT 12.0' \*SOIL SAMPLE SB-8: 10.0' - 12.0' \*GROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED 15.0-\*NO GROUNDWATER SAMPLE COLLECTED 20.0-25.0-WATER LEVEL OBSERVATIONS GENERAL INFORMATION 11.0'V WHILE DRILLING START DATE 02/01/91 COMPLETION DATE 02/01/91\_ DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER 1660 LOGGER: DEPTH TO CAVE-IN \_---

(I) GENERAL INFORMATION	(2) FACILITY NAME			
Well/Dillihele/Perchele Location WASHINGTON	Onginal Wich Owner (II Known)  SERIGRAPH INC.			
SE 1/4 of SW 1/4 of Sec. 13; T. 1 N; R. 19 W	Present Well Owner			
(If applicable)	Street or Route			
Gov't Lot Grid Number				
Grid Location ft. N. S., ft. E. W.	City, State, Zip Code			
Civil Town Name WEST BEND	Facility Well No. and/or Name (II Applicable) WI Unique Well No.			
Street Address of Well 760 INDIANA AVE	Reason For Abandonment ENVIRONMENTAL SOIL BORING COMPLETED			
City, Village WEST BEND, WI	Date of Abandonment FEB 1, 1991			
WELL/DRILLHOLE/BOREHOLE INFORMATION				
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) FEB. 1, 1991	(4) Depth to Water (Feet) 11,0  Pump & Piping Removed? Yes No Not Applicable  Liner(s) Removed? Yes No Not Applicable			
☐ Monitoring Well ☐ Water Well ☐ Drillhole ☐ Borehole ☐ Construction Report Available? ☐ Yes ☐ No	Screen Removed?  Casing Left in Place?  If No, Explain  Screen Removed?  Yes No Not Applicable  Yes No			
Construction Type:  Drilled Driven (Sandpoint) Dug  Other (Specify)	Was Casing Cut Off Below Surface?  Did Sealing Material Rise to Surface?  Did Material Settle After 24 Hours?  If Yes, Was Hole Retopped?  Yes No  Yes No			
Formation Type:  Unconsolidated Formation Bedrock BORING Total Well Depth (ft.) 2.0 Casing Diameter (ins.) N/A  (From groundsurface)  Casing Depth (ft.) N/A  Was Well Annular Space Grouted? Yes No Unknown If Yes, To What Depth?	(5) Required Method of Placing Sealing Material  Conductor Pipe-Gravity Conductor Pipe-Pumped  Dump Bailer Other (Explain)  (6) Sealing Materials For monitoring wells and  Neat Cement Grout monitoring well boreholes or  Sand-Cement (Concrete) Grout  Concrete  Clay-Sand Slurry Bentonite-Sand Slurry Chipped Bentonite			
(7) Sealing Material Used	From (Fi.) To (Fi.) Sacks Sealant Mix Ratio or Mud Weight or Volume			
BENTUNITE CHIPS	Surface 17.0 3-4 100% BENTONITE  50/16 5ACKS			
(b) Comments:				
(9) Name of Person or Firm Doing Sealing Work  AQUA - TECH, TVC.  Signature of Person Doing Work  Signature of Person Doing Work  Street or Route  YOS. PARK ST.  City, State, Zip Code  POUT IN ACHIANATIAN WIT (3074)	(10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected District/County  Reviewer/Inspector  Follow-up Necessary			

AQUA-TECH, INC SOIL PROFILE LOG 140 S. PARK ST. PROJECT: SERIGRAPH, INC PORT WASHINGTON, WI 53074 LOCATION: 760 INDIANA AVENUE TELEPHONE: PROJECT#: (414) 284-5746 (414) 375-0407 (MILW METRO) ATI WO#: 95036 B-9 SURFACE ELEVATION BORING SAMPLES PID LEVELS DEPTH DESCRIPTION AND REMARKS NO. MOISTURE REC (PPM) (FT) (BLOWS) **HEADSPACE** 0.0-0.0' - 10.0' SAND DRY 0 DRY 0 DRY DRY CUTTINGS 10.0' - 12.0' BLACK SILT, SAND 0 SB-9 WET 12.0 TERMINATED BORING AT 12.0' \*SOIL SAMPLE SB-9: 10.0' - 12.0' \*GROUNDWATER ENCOUNTERED AT 11.0' \*NO BEDROCK ENCOUNTERED 15.0-\*NO GROUNDWATER SAMPLE COLLECTED 20.0-25.0~ WATER LEVEL OBSERVATIONS GENERAL INFORMATION 11.0'▽ 02/01/91 WHILE DRILLING START DATE 02/01/91 COMPLETION DATE DRILLING METHOD: HOLLOW STEM AUGER; SPLIT SPOON SAMPLING DEPTH TO WATER LOGGER: DEPTH TO CAVE-IN ----

#### State of Wisconsin Department of Natural Resources

(I) GENERAL INFORMATION	(2) FACILITY NAME			
Well, Prilihele, Ferchole Location County WASHINGTON	Original Well Owner (If Known) SERIGRAPH INC.			
SE 1/4 of Sw 1/4 of Sec. 13; T. 1 N; R. 19 W	Present Well Owner			
(If applicable)  Gov't Lot Grid Number	Street or Route			
Grid Location ft. ☐ N. ☐ S., ft. ☐ E. ☐ W.	City, State, Zip Code			
Civil Town Name WEST BEND	Facility Well No. and/or Name (II Applicable) WI Unique Well No.			
Street Address of Well 760 INDIANA AVE	Reason For Abandonment ENVIRONMENTAL SOIL BORING COMPLETED			
City, Village WEST BEND, WI	Date of Abandonment FEB 1, 1991			
WELL/DRILLHOLE/BOREHOLE INFORMATION	·			
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) FEB. 1, 1991	(4) Depth to Water (Feet) 11.0  Pump & Piping Removed? Yes No Not Applicable Liner(s) Removed? Yes No Not Applicable			
☐ Monitoring Well ☐ Water Well ☐ Drillhole ☐ Borehole ☐ Construction Report Available? ☐ Yes ☐ No	Screen Removed?  Casing Left in Place?  If No, Explain  Yes No Not Applicable Yes No			
Construction Type:  Drilled Driven (Sandpoint) Dug  Other (Specify)	Was Casing Cut Off Below Surface?  Did Sealing Material Rise to Surface?  Did Material Settle After 24 Hours?  If Yes, Was Hole Retopped?  Yes No  Yes No			
Formation Type:  Unconsolidated Formation  Boring  Total Well Depth (ft.) 2.0 Casing Diameter (ins.) NA  (From groundsurface)  Casing Depth (ft.) NA  Was Well Annular Space Grouted? Yes No Unknown  If Yes, To What Depth?	(5) Required Method of Placing Sealing Material  Conductor Pipe-Gravity Conductor Pipe-Pumped Dump Bailer Other (Explain)  (6) Sealing Materials For monitoring wells and Neat Cement Grout monitoring well boreholes or Sand-Cement (Concrete) Grout Concrete Bentonite Pellets Clay-Sand Slurry Bentonite-Sand Slurry Chipped Bentonite			
(7) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight or Volume			
BENTUNITE CHIPS	Surface 12.0 3-4 100% BENTUNITE  50/16 5ACKS			
(b) Comments:				
(9) Name of Person or Firm Doing Sealing Work  AGUA - TECH, TWC.  Signature of Person Doing Work  Date Signed  Z-Z-91  Street or Route  YOS. PARK ST.  City, State, Zip Code  PORT JAJACH/A/L-TRA/ WIT S3074	(10) FOR DNR OR COUNTY USE ONLY  Date Received/Inspected District/County  Reviewer/Inspector  Follow-up Necessary			

APPENDIX C

# AQUA-TECH

#### ANALYTICAL LABORATORY REPORT

Sample f:	Lab Director Approval:	1 716 J. 1-h.	
Customer: Serigraph Inc	UOF 95036	2 25. 41	
Date Sampled: 2-1-91			
Date Received: 2-4-91		·	
Date Wanted: 1-15-91	•		

## Sample Description

: : :.

PARAMETER	A 58-1	B - 2	C ≤8-3 °	D 58-4	Tech 1D	Date Analysis Completed
Total Solids	78%	83%	94%	84%	53	2-5-91
TPH- Gas			30, 15 (1.0)		TEM	2-11-91
			,			
TPH-Diesel	100 (10 mg/g)	NO (10 mg/g)	3170-19(10)	10770,000 (10)	<b>५</b> ६५	5-25-01
TPH- Fuel Oil	*	*	*	- <del>14</del>		
Benzene				No(0.40, 10)	مريء	5-11-91
Toluene				ا واص ١٠٦	j	,
+ Thylbenzene			$\searrow$	1.5 1		
Xylene_				37,		
3				, , , , , ,		
	Ë	F	G	. н		
	<b>53-5</b>	53-6	58-7	5B-8		
Total Solids	95%	89%	88%	89%	<b>5</b> 8	2-5-91
TPH-Gas	10 (1.0, le 1	100(1.0, ug b)	المار المسراع)	130 (1.0,000 6)	<b>७</b>	2.~11~01
TPH-Diesel	14,mole, (10)	40(10mglg)	No (10 mg/g)	40(10mg/g)	401	<b>४-22-9</b> ।
TPH-Fuel Oil	*	* 55	*	* 100		
•				•		
	I	* Unde	i the co	altion	·	
	s8-9		lysio, dies			
Total Solids	92%	cannot	be Separ		28	2-5-91
TPH - Gas	130 (1.0 mole)	1	# 2 Fuel		નદન	2 12 -91.
TPH- Diesel	اباء (المحيل)	all re	sults wer		427	5-35-41 .
TPH-Fuel Dil	*		total a		<u> </u>	
		C .		Ulama	P. Ke	limolii

CORPORATE
Aqua Tech, Inc.
140 S. Park St. Port Weshington, WI 53074

TREATMENT FACILITY
Groce Laboratories, Inc.
340 Robinson Rd Green, SC 29651

AQUA-TECH	IC.
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CHAIN OF CUSTODY RECORD

PAGE \_\_\_\_OF \_\_\_\_

Use Black Ink Only, Press Hard 140 S. Park St. Port Washington, WI 53074 Filtered (Yes/No) Preserved (Code) ALLSOILS PROJ. NO **PROJECT NAME** Refrianted (Yes/No) SERIGRAPH INC 95036 Sample type (Carb/Composite) SAMPLERS: (Signature) Sample sources (WW, CV, DW, other) Preservation Code: A - None B - HNO3 C - H<sub>2</sub>SO4 ATI **Analysis** Lab No. Date | Time | Sample Station ID DEPTH Comments: 12-1 9:00 SB-1 10-12 W3622A  $X \mid X$ 10:0m 5B-2 10-12 23 Composite Χ X 50 10:15AM SB-3 |X|XX 2-1 11:30 SB-4 3-5 2-1 1:15 5B-5 X l۲ 2-1 2:00, 53-6 10-12 X 2-1 2:45, 5B-7 X /o -/> X X 2-1 3:30 58-8 10-12 2-1 3:15 5B-9 X 10-12 χ Relinquished by: (Signature) Received by: (Signature) Date / Time Date / Time Report to: PETE PAVALKE 2-1-91 5=15 pm Received by: (Signature, Date / Time Date / Time Relinguished by: (Signature) Street \_\_\_\_ State \_\_\_\_\_Zip \_\_\_\_ City \_\_\_\_\_ Phone no. ( Received for Laboratory by: (Signature) Relinquished by: (Signature) Date / Time Potes Olan 2-4-91 11:20 Fax no. ( RETURN SIGNED COFC WITH RESULTS Receipt pH Receipt temp

APPENDIX D

#### APPENDIX D

## SERIGRAPH, INC.

#### ESTIMATE\* OF REMEDIATION COSTS

#### FOR LANDFILL DISPOSAL

	Unit Cost	Total Cost
Soil sample collection and laboratory analyses required for landfill approval		\$ 550.00
Landfill disposal of 4,000 tons (2850 yd3) of contaminated soil	\$30.60/ton	\$122,400.00
Excavation and transportation of 4,000 tons of contaminated soil to Parkview Landfill	\$8.00/ton	\$ 32,000.00
Backfill and compaction of 4,000 tons of crushed gravel fill	\$8.00/ton	\$ 32,000.00
Aqua-Tech professional field services		\$ 3,300.00
30 soil analyses (TPH) per WDNR protocol to verify contamination removal	\$110/sample	\$ 3,300.00
Consulting with WDNR and Report Preparation (25 hours)	\$50/hour	\$ 1,250.00
	TOTAL.	\$194,800.00

<sup>\*</sup> The cost estimate presented above does not constitute a formal contract and is provided for a relative comparison to asphalt incorporation costs.

APPENDIX E

#### APPENDIX E

## SERIGRAPH, INC.

#### ESTIMATE\* OF REMEDIATION COSTS

#### FOR ASPHALT DISPOSAL

	Unit Cost	Total Cost
Collection and Analyses of additional soil samples per Payne and Dolan requirements		\$ 450.00
Asphalt Plant disposal of 4,000 tons (2850 yd3) of contaminated soil	\$51.75/ton	\$207,000.00
Excavation and transportation of 4,000 tons of contaminated soil to Payne & Dolan, Inc.	\$9.50/ton	\$ 38,000.00
Backfill and compaction of 4,000 tons of crushed gravel fill	\$8.00/ton	\$ 32,000.00
Aqua-Tech professional field services		\$ 3,300.00
30 soil analyses (TPH) per WDNR protocol to verify contamination	\$110/sample	\$ 3,300.00
Consulting with WDNR and Report Preparation (25 hours)	\$50.00/hour	\$ 1,250.00
	TOTAL	\$285,300.00

<sup>\*</sup> The cost estimate presented above does not constitute a formal contract, and is provided for a relative comparison to landfilling costs.



## State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

Box 12436 Milwaukee, Wisconsin 53212 Fax: (414) 562-1258

File Ref: 4440

March 13, 1991

Mr. Tom Ravn Serigraph, Inc 760 Indiana Avenue West Bend, WI 53095

Dear Mr. Ravn:

RE: Serigraph, Inc #2, 760 Indiana Av, West Bend, WI 53095

The Wisconsin Department of Natural Resources (WDNR) has been notified that petroleum contamination was discovered January 18, 1991 at the above referenced location. Jeffrey Fischer, the Leaking Underground Storage Tank (LUST) Project Manager for your area, may be reached at the above address or at (414) 263-8655. Based on the site specific information provided, this case has been assigned to the Medium Priority Rank group. The purpose of this letter is to inform you of your legal responsibilities to address this situation.

Releases from underground storage tanks regulated under Subtitle I of the Resource Conservation and Recovery Act require compliance with the provisions of 40 CFR Parts 280 and 281. The Environmental Protection Agency (EPA) has the authority to take enforcement action at any time, but will generally not take action against parties cooperating with the state. The wunk proceeds in LUST cases under the authority of s. 144.76, Wisconsin Statutes, commonly referred to as Wisconsin's Hazardous Substance Spill Law. The definition of "hazardous substance" as found in s. 144.01(4m), Wisconsin Statutes, includes petroleum products.

Wisconsin Statute 144.76(2a) states: "A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall notify the Department immediately of any discharge not exempted under sub.(9)."

Wisconsin Statute 144.76(3) states: "A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of this state."

Because you possess or control a hazardous substance which has been released to the environment, the Department identifies you as the party responsible for taking the actions necessary to restore the environment. You are required to:

- 1. Immediately notify your WDNR Project Manager, or the Spills Hotline at (414) 562-9615 should emergency conditions involving explosive vapors and/or well contamination develop.
- 2. Conduct an investigation to determine the extent of soil and groundwater

contamination.

3. Remediate all of the environmental impacts caused by this situation.

The Department suggests that you have a qualified environmental engineer or hydrogeologist direct the remedial investigation, assess the environmental impact, and coordinate the implementation of a cleanup program. . Within 15 days of receiving this letter, you should provide your WDNR Project Manager with the date the remedial investigation will begin.

In accordance with NR 141.23 and NR 141.25 The Department requires that the location of the tank and/or release be submitted with the work plan.

Requirements for location are Latitude, Longitude, 1/4, 1/4, Township, and Range (east or west).

Final documentation of the investigation and cleanup should be prepared according to the guidance enclosed and sent to this office on completion of the project. Remedial actions must adequately cleanup contaminated soil and/or groundwater to current WDNR guidelines and/or standards. All product, soil, wastewater, and sludge must be disposed of in compliance with all applicable federal, state and local laws and regulations. Because the Department is experiencing a backlog of leaking underground storage tank cases of emergency status and your case is not currently ranked as an emergency, your submittals will be reviewed as time permits. Investigation and cleanup should not, however, be delayed pending WDNR review.

You are encouraged to contact the Department of Industry, Labor, and Human Relations (DILHR), the state agency that administers the Petroleum Environmental Cleanup Fund (PECFA). This fund may reimburse you for eligible costs associated with the remedial investigation and cleanup. DILHR should be contacted at (608) 267-4545 to obtain current information regarding the PECFA program.

Your cooperation in this matter will be appreciated. Please be aware that your ability to use PECFA funds is dependent on your cooperation in adequately addressing this problem. If you have any questions, please contact your WDNR Project Manager.

Sincerely,

Sharon Graham

Shaw Graham

Program Assistant, Environmental Repair Section

Enclosures: Remedial Investigation Checklist

. Application to Treat or Dispose of Petroleum Contaminated Soil

c: Peter Pavalko, Aqua-Tech, Inc SED Case File

## LEAKING UNDERGROUND STORAGE TANK (Case Tracking) Form 4400-146 Rev. 2-93

## RECEIVED

MAR 2 9 1999

N. KOCHIS	PECFA SITE REVIEW
UID Number: 1408 FID Number: 26	
County: WASHINGTON Site Name: SERIGRAPH #2 Address: 760 INDIANA AVE	Initial Contact Date:   3.4.9/     Date RPLetter Sent:   3.13.9/     Date Closure Approved:   5.21.99
Municipality:         WEST BEND         W           Legal Descript:         SE 1/4 SW 1/4 sec.         13 - 1 NR 19 Few           Lat:         Long.:         Long.:           Priority Screening         Scoring Criteria         Funding Sor           X 1 = High         X 1 = F           W 2 = Medium         X 1 = F           3 = Low         3 = F           4 = Unknown         4 = C	Phone Number: ( )  urce Effective Date LUST Trust Eligible  RP
Score: 22 Init: 24 Date: 7  Case Status  State: 7  Case Status  State: 7  Case Status  State: 7  Case Status  State: 7  Lamp Term Monitoring	art Date End Date
Responsible Party	Impacts
Company Name: SERIGRAPH CORP.  TOM RAVA  Address: 760 INDIANA AVE  W. BEND, WI 53095  Phone Number: 414, 335 - 7343	Enter "P" for potential and "K" for known  (1) Fire/Explosion Threat  (2) Contaminated Private Well(s, # of Wells  (3) Contaminated Public Well  (4) Groundwater Contamination  (5) Soil Contamination  (6) Other:  (7) Surface Water Impacts  (9) Floating Product
Consulant  Contrary Name: ADVENT  Contrary Name: PETER PAVALKO  Address: 6/00 W. EXECUTIVE DR. Suita  MEQUON WI 53092  Telephone: 1914 238 - 1998	Substances   A STS   # Tank(s)   Size

REMARKS: Contamination discovered during-
installation of soil borings. Borings were part
of Phase III site assessment regarding former
ASTS located on NW put of subject site.
gw encountered at 11 in boings

## ACTION CODES

02 = RP Letter West *	20 = Admin. Order Cancelled	33 = Tank Cls/SA. Report Rec'd	39 = RA Workplan Rec'd *	45 = Form 4 Approved
03 = Notice of Noncompliance *	21 = Contest Case Hearing *	34 = Tank Cls/SA Report Appvd	40 = RA Workplan Appvd *	46 = Form 4 Denied
04 = Enforcement Conference *	23 = Referral to DOJ *	35 = SI Workplan Rec'd '	41 = RA Report Rec'd *	47 = PECFA Reimbursement
14 = Notice of Violation *	30 = Notice to Proceed *	36 = SI Workplan Appvd *	42 = RA Report Appvd *	48 = Free Product Recovery *
18 = Admin Order Issued *	31 = Tink Cls/SA Workplan Rec'd	37 = SI Report Re 51 *	43 = Status Reports *	49 - Alternate Water Supplied *
10 Admin Order Modified	12 :: Tok Cle/SA Workplan Appyd	18 = SI Report Appyd *	44 Form 4 Received	

60 - Consent Order 1

NOTE: \* = FPA Reporting Requirements

## ACTION UPDATES

Entered in	Tracking	Code	Action Date (Received / Scut)	Compliance Due Date	Comment	Compliance Achieved
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PROJECT MGR

#### **ACTION CODES**

02 == RP Letter Sent \* 03 : Notice of Noncompliance \* 04 : Enforcement Conference \* 14 = Notice of Violation \*

18 = Admin Urder Issued \* 19 = Admin, Order Modified

60 - Consent Order 4

23 = Referral to DOJ \* 30 = Notice to Proceed \* 31 = Tnk Cls/SA Workplan Rec'd

20 = Admin, Order Cancelled

21 = Contest Case Hearing \*

32 = Tnk Cls/SA Workplan Appvd

33 = Tank Cls/SA Report Rec'd 39 = RA Workplan Rec'd \*

35 = SI Workplan Rec'd \* 36 = SI Workplan Appvd \*

37 = SI Report Rec'd \* 38 = SI Report Appvd \*

34 = Tank Cls/SA Report Appvd 40 = RA Workplan Appvd \* 41 = RA Report Rec'd \* 42 = RA Report Appvd \*

> 43 = Status Reports \* 44 = Form 4 Received

45 = Form 4 Approved

46 = Form 4 Denied

47 = PECFA Reimbursement 48 = Free Product Recovery \*

49 = Alternate Water Supplied \*

NOTE: \* = EPA Reporting Requirements

#### ACTION UPDATES

Entered in Tracking	Code	Action Date (Received / Sent)	Compliance Due Date	Comment	Compliance Achieved
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#### PRIORITY SCREENING WORKSHEET

numan nearth tha property; and/or any case which has caused of has a the State of Wisconsin).	nigh potential of causing substantial impacts to the soil, waters and air of
EMERGENCY FACTORS:	HIGH FACTORS:
Contaminated private or public well >NR 140 enr. sin.  Explosive or toxic vapors in structures  Threat of fire	Floating product (including sheen)  GW contamination (>140 enf. std.)  Impacted surface water wetland, front stream, etc. impacted  Saturated soil contamination possing a risk to groundwater
Sut which shows levels of contamination that may cause substantial e Moderate soil contamination with potential for impacting ground impacted surface water - no critical habitat threats.  Groundwater contamination >NR 140 PAL.	
inreat to numan neath and vital natural resources.)  Soil contamination which appears to have a limited potential for Initial Remedial action has substantially reduced environmental	
INKNOWN FACTORS: (DEFINITION: Any case where some inaccurate information the level of threat to human nealth or the environment of the information to assign a high, medium, or low ranking	ronment can not be assessed at this time.)
NUMERICAL LU	ST SCORING WORKSHEET
POINTS:  20 Municipal well impacted  13 > 6 private wells impacted  16 ÷ - 6 private wells impacted  14 2 - 3 private wells impacted  15 private wells impacted  16 private wells impacted  17 private well impacted  18 private well impacted	Points:  10 Major soil and/or gw >ES within 1200' of a public well  8 Major soil and/or gw >ES within 1200' of one or more private wells  6 Groundwater contamination >ES  4 Groundwater contamination <es (e.g.="" 2="" and="" contamination="" er="" from="" municipal)<="" non-community="" off="" other="" potential—="" s17e="" soil="" supply="" system="" td="" than=""></es>
2. EXPLOSIVE OR TOXIC VAPORS: POINTS: CONFIRMED POTENTIAL  20 10  16 3  12 6  NOTE: Explosive levels determined to be >20% LFL as per an explosive	Explosive levels in a residence or building  Explosive levels in a sewer or other confined space  Toxic levels in a residence or building  ty meter, toxicity levels are based on OSHA permissible exposure limits (PEL's)
3. SUBFACE WATER IMPACTS: POINTS: CONFIRMED POTENTIAL  10 5 6 3  Request assistance from District Water Resources staff in e	Visible sheen or product on sensitive surface water environment (e.g. wetland, trout stream)  Visible sheen or product on non-sensitive surface water area.  Exceedance of NR 102, 103 or 104 surface water quality standards.
4. HYDROGEOLOGIC SETTING: Points: 12 Permeable strattgraphy (gravet, sand, fractured bedrock or of the ground surface. 10 Permeable strattgraphy and groundwater greater than 25 fe	utilities capable of intercepting and directing flow) and groundwater within 25 f.
Moderately permeable strattgraphy and groundwater greater  by permeability strattgraphy (slit, clayer slit, sand clays)  by permeability strattgraphy and groundwater greater that  Type of propirer:  POINTS: FREE PROPIRED DISSOLVED PROPIRED.	r than 25 feet below ground surface.  and groundwater within 25 feet of ground surface.  n 25 feet below ground surface.

Diesei, fuel oil.

(<u>3</u>)

10

Gasoline, mixture of gasoline and other products, other light petroleum products.

ĚV. 10/89	DEPARTMENT OF NAT LEAKING UNDERGROUN			COMPUTER TRACKING
PMN#:FID#		SITE HAME:	Serigraps	C, Inc #2
PROJECT MGR: Q Fischer	/	1	160 Andles	. 1
SUPPORT PERSON:		4	Jest Bens	2 53095 TH_CITY_VI
DISTRICT: SED COUNTY: C	Work HNDI:	LEG	AL DESC:1/4	_1/4 SECTRE/W
DATE OF INITIAL CONTACT: 03/04/9 (mo day y	DATE OF RP LETTER:	03/1/9 59/ no day yr)	DATE SITE CLOSE	IRE APPROVED: (mo day yr)
LUST TRUST ELIGIBLE: (x)	PRIORITY SCREENING:		FUNDING SOURCE:	
1 = FEDERAL 2 = NON-FEDERAL	= HIGH SCOR	E:	1 = RESPONS	BIBLE PARTY
Z = NON-PEDERAL	3 = LOW			MENTAL RESPONSE FUND
STATUS: (X)	4 = UNKNOWN		4 = SUPER !	FUND
1 * STATE LEAD	Annual contractions and an artist and an artist and artist and artist and artist and artist and artist and artist and artist and artist and artist and artist and artist and artist artist and artist artist and artist art		5 = NONE	
Z = RP LEAD	(see worksheet o	n back)	6 = OTHER_	
		TE COMPLETED	COMMENTS:	
NO ACTION TAKEN		(1-0 OAT TR)	CONTENT S.	
EMERGENCY	/			
EMERGENCY RESPONSE	18/9/			
FIELD INVESTIGATION		13/1/2/	vite ao	ser loving
LONG TERM MONITORING				
CONTACT: Jon K	CANN	CONSULTANT:_	Leter ya	Evalho
ADDRESS:		ADORESS:_		
		PHONE:	7/7/	
PHONE: 4/4/3 (list additional on se	3 5 - 73 43 parate (ist & attach)	AMOUNT COMME	TTED: S	AMOUNT SPENT: \$ eparate list & attach)
ECFA REVIEW REQUESTED:(X)YES	NO	DATE PECFA R	EQUEST RECEIVED:	mo day yr)//
IRE/EXPLOSION THREAT	CTS:(X) POTENTIAL IMPACTS:		CES:(X) QUANTITY	7 DISCHARGED:(gals)
CONTAMINATED PRIVATE WELL	_		UNLEADED GAS	- VOCS PESTICIDE
			DIESEL	
GROUNDWATER CONTAMINATION			FUEL OIL	
SOIL CONTAMINATION	V.	V	UNKNOWN HYDROCARI	BONS
OTHER:	_	-	OTHER	
	***ENEUSCENE	T ACTION TAKEN	000	
D1=INF. CONTACT, RESP INITIATED D2=RP LETTER, RESP INITIATED D3=NTC OF NON COMPLIANCE	06=INSPECTION LETTER 07=RESPONSE RECEIVED 11=CLOSE OUT	14=MOTICE O	F VIOLATION	23=REFERRAL TO DOJ 25=REFERRAL TO EPA 99=OTHER ACTION:
		EU-MURIN. U	MAN CAMPERED	Product Melions
ACTION DAT	ne form?			
(code from above) (mo/da	4191 · Ktm	otifices		
	1000	4	,	
02 0311.	3191 Afte	ller, med	-	

(for additional action codes see instructions/list additional on separate list and attach)

OVER ALL CASE COMMENT: See attach

## LUST CASE PRIORITY SCREENING WORKSHEET

human ers an H FACT	health and property; and/or any d air of the State of Wisconsin) ORS: ontaminated private or public wei xplosive or toxic vapora in struc	case which has cau						
T	hreat of fire		saturated soil contamination					
IUM FA	CTORS: (DEFINITION: Any case which shows levels of contamination the	hich does not appe nat may cause subs	ar to be an immediate threat to human health or vital natural resources tantial environmental impacts if left unaddressed.)					
_ #	oderate soil contamination with a mpacted surface waterno critical	noderate potential al habitat threats	for impacting groundwater.					
FACTO	RS: (DEFINITION: Any case where threat to human heelth and vital	Known gw contamination (private or public well side onf, std. Impacted surface waterwetland, trout stream, etc. impacted saturated soil contamination  case which does not appear to be an immediate threat to human health or vital natural resources tion that may cause substantial environmental impacts if left unaddressed.)  with moderate potential for impacting groundwater.  critical habitat threats.  e where contamination has been documented, but which presents limited potential for any divital natural resources.)  pears to have a limited potential for impacting groundwater.  substantially reduced environmental threat.  case where some indication of contamination is present, but due to incomplete or threat to human health or the environment can not be assessed at this time.)  sign a high, medium, or low ranking.  k for the site along with the date of ranking. This may be updated when additional informations a particular case may be taken into account in the comment section. The District set the ranking of a site based upon "special circumstances."  rity screening box opposite side						
NOUN F	ACTOR: (DEFINITION: Any case when information the level of threat	NUMERICAL LUST SCORING WORKSHEET (complete for LUST cases ranked HIGH)  circle one) croleum Contamination: POINTS l 8 Soil & gw within 1200' of a public well  tls 6 Soil & gw within 1200' of one or more private wells  wells 4 GW contamination, no wells within 1200'  wells 2 Soil contamination  cors: (circle one)						
In:	adequate information to assign a	high, medium, or	low ranking.					
n is re	eceived. Special circumstances i	for a particular c	ase may be taken into account in the comment section. The District					
	e & date, indicate in priority so	creening box oppo	site sideHIGHHEDIUMLOWUNKNOWN					
CSCI IND	NUMERICA  WATER & SOILS: (circle one)	AL LUST SCORING WO	RKSHEET (complete for LUST cases ranked HIGH)					
POINTS	Documented Petroleum Contamina		- <b></b>					
20 18	Municipal well >6 private wells	-						
16	4 - 6 private wells	-						
14	2 - 3 private wells							
12	1 private well							
EXPLOS POINTS								
		e levels in a resi e levels in a sewe						
		vels in a residenc						
	Notes E	xplosive levels de	etermined to be >20% LEL as per an explosivity meter; toxicity levels permissible exposure limits (PEL)					
	EOLOGIC SETTING: (circle one)							
POINTS 12			sand, fractured bedrock or utilities capable of intercepting and					
14	directing flow) and groundwate	er within 25 feet	of the ground surface.					
10	Highly permeable sub-soils and	groundwater more	than 25 feet below ground surface.					
8	Moderately permeable sub-soils (silty sands, silty gravel, clayey sands) and groundwater within 25 feet of ground surface							
6			greater than 25 feet below ground surface. sand clays) <u>and</u> groundwater within 25 feet of ground surface.					
2			ter than 25 feet below ground surface.					
TYPE O	OF PRODUCT: (circle one)							
POINTS	NOTE: Add 4 points if fr	ee product is pres	sent. (score in parentheses)					
8 (1	2) Gasoline, mixture of gas	oline and other pr	roducts, other light petroleum products.					
6 (1		oils or crude fra	ctions					
- \								

NOTE: DO NOT USE THIS FORM WHEN DOCUMENTING INSPECTIONS AT HAZARDOUS WASTE AND SOLID WASTE FACILITIES. SEE BACK SIDE OF THIS FORM FOR MORE INFORMATION.

				License Number		
ATTN:				-		
☐ Residuals Management SW/3 ☐ District ☐ District ☐ Hazardous Waste Management SW/3 ☐ Environmental Enforcement EE/5 ☐ Unit ☐ District ☐ Environmental Enforcement EE/5				EPA ID Number  WI Facility ID Number		
						Contrary Manager
Systems Manag Facility/Company Na		Location (Address or 1/41/4)		City, State, Zip Code		
Facility Type	District	County	Contact Method Telephone In-Person	Date 03   01   91	Time (24-Hour Clock)	
Facility Representate	Ravn	/	Title or Position of Representative  Telephone Number (include area code)  (4/7) 335-7343			
A			9 7			
	Contact					
Serieras	h who		tanks on	prop. prin	to 1978	
760 In	dian a		site as	1-18-91 secone 14	soil boings	
West &	Bend 6309	5	odos.	+ HNW reade	to 1978  1-31-91  poil borings	
	w/ agna Je	ch to develop				
				Yete Pava	lko KAP	
			wello	- 2 mi		
					H20-no -3/4 mile	
poi				- sandy pr		
			fille	d area.	•	
			estear	ea confined	x x 100 ft x 30 ft.	
			per bo	ing.	2 × 100 ff x 30 ft.	
Check if additional s	sheets attached		Ву			
			Tag .		A-16-16-16	