SIMON HYDRO-SEARCH

175 N. Corporate Drive
Suite 100
Brookfield, WI 53045

Telephone (414)792-1282
Facsimile (414)792-1310

To: Department of Natural Resources
Richards Street Annex
4041 Richards St
PO Box 12436
Milwaukee, WI 53212

Date: 5/17/93

Subject: Well Abandonment
At Timmerman Field

Attn: John Feeney

Job. No. 25511536 3

We are sending the following: _X_ Herewith ____ Under Separate Cover

# of Copies	Item
1	Abandonment forms for MW-1, MW-2
	and MW-3 at Timmerman Airport

Comments:

Transmitted by:

X First Class Mail
___ Express Mail
___ Federal Express
___ UPS
___ Messenger

By: John Kaftan

SIMON Environmental

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 12-91

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

Well/Drillhole/Borehole Location: MW-1
County: Milwaukee
NW 1/4 of NE 1/4 of Sec. 32 ; T. 8 N; R. 21 [X] E [ ] W
(If applicable) Gov't Lot ____ Grid Number ____
Grid Location ____ ft. [ ] N. [ ] S., ____ ft. [ ] E. [ ] W.
Civil Town Name
Street Address of Well
City, Village

(2) FACILITY NAME

Original Well Owner (If Known): Milwaukee County Timmerman Field
Present Well Owner: Same
Street or Route: 9305 W. Appleton Ave
City, State, Zip Code: Milwaukee, WI 53225
Facility Well No. and/or Name (If Applicable)
WI Unique Well No.: _____
Reason For Abandonment: Well is Clean
Date of Abandonment: 5/14/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 5/14/93

[X] Monitoring Well
[ ] Water Well
[ ] Drillhole
[ ] Borehole

Construction Report Available? [X] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify)

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Well Depth (ft.) 20.5 (From groundsurface)
Casing Diameter (ins.) 2"
Casing Depth (ft.) 20.2

Was Well Annular Space Grouted? [ ] Yes [X] No [ ] Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) 8.62

Pump & Piping Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Liner(s) Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Screen Removed?	[ ] Yes	[X] No	[ ] Not Applicable
Casing Left in Place?	[X] Yes	[ ] No	

If No, Explain ____

Was Casing Cut Off Below Surface?	[X] Yes	[ ] No
Did Sealing Material Rise to Surface?	[X] Yes	[ ] No
Did Material Settle After 24 Hours?	[ ] Yes	[X] No
If Yes, Was Hole Retopped?	[ ] Yes	[ ] No

(5) Required Method of Placing Sealing Material
[ ] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [X] Other (Explain) Dumped

(6) Sealing Materials
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[X] Chipped Bentonite

For monitoring wells and monitoring well boreholes only
[ ] Bentonite Pellets
[ ] Granular Bentonite
[ ] Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite chips 3/8"	Surface	20.2	1 bag 50 lbs	

(8) Comments: ____

(9) Name of Person or Firm Doing Sealing Work: Rick Kriofske
Signature of Person Doing Work: Rick Kriofske
Date Signed: 5/14/93
Street or Route: 12777 W. Silver Spring
Telephone Number: (414) 783-5002
City, State, Zip Code: Butler, WI 53007

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	[ ] Complying Work [ ] Noncomplying Work
Follow-up Necessary	

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B
Rev. 12-91

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

Well/Drillhole/Borehole Location: MW-2
County: Milwaukee
NW 1/4 of NE 1/4 of Sec. 32 ; T. 8 N; R. 21 [X] E [ ] W
(If applicable) _____ Gov't Lot _____ Grid Number
Grid Location _____ ft. [ ] N. [ ] S., _____ ft. [ ] E. [ ] W.
Civil Town Name
Street Address of Well
City, Village

(2) FACILITY NAME

Original Well Owner (If Known): Milwaukee County Timmerman Field
Present Well Owner: "
Street or Route: 9305 W. Appleton Ave
City, State, Zip Code: Milwaukee, WI 53225
Facility Well No. and/or Name (If Applicable)
WI Unique Well No.: _ _ _ _ _ _
Reason For Abandonment: Well is Clean
Date of Abandonment: 5/14/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On
(Date) 5/14/92

[X] Monitoring Well
[ ] Water Well
[ ] Drillhole
[ ] Borehole

Construction Report Available? [X] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify)

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Well Depth (ft.) 20.5 (From groundsurface)
Casing Diameter (ins.) 2"
Casing Depth (ft.) 20.2

Was Well Annular Space Grouted? [ ] Yes [ ] No [ ] Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) 6.79

Pump & Piping Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Liner(s) Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Screen Removed?	[ ] Yes	[X] No	[ ] Not Applicable
Casing Left in Place?	[X] Yes	[ ] No	

If No, Explain _____

Was Casing Cut Off Below Surface?	[ ] Yes	[ ] No
Did Sealing Material Rise to Surface?	[ ] Yes	[ ] No
Did Material Settle After 24 Hours?	[ ] Yes	[X] No
If Yes, Was Hole Retopped?	[ ] Yes	[ ] No

(5) Required Method of Placing Sealing Material
[ ] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [X] Other (Explain) Dumped

(6) Sealing Materials — For monitoring wells and monitoring well boreholes only
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[X] Chipped Bentonite
[ ] Bentonite Pellets
[ ] Granular Bentonite
[ ] Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite Chips 3/8"	Surface	20.2	1 50lb bag	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
Rick Kriofske
Signature of Person Doing Work: Rick Kriofske
Date Signed: 5/14/93
Street or Route: 1277 W. Silver Spring
Telephone Number: (414) 783 5002
City, State, Zip Code: Butler, WI 53007

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	[ ] Complying Work [ ] Noncomplying Work
Follow-up Necessary	

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 12-91

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

Well/Drillhole/Borehole Location: MW-3

County: Milwaukee

NW 1/4 of NE 1/4 of Sec. 32 ; T. 8 N; R. 21 ☒ E ☐ W

(If applicable) Gov't Lot ____ Grid Number ____

Grid Location ____ ft. ☐ N. ☐ S., ____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well: 9305 W. Appleton Ave

City, Village: Milwaukee WI 53225

(2) FACILITY NAME

Original Well Owner (If Known): Timmerman Field

Present Well Owner: Sump

Street or Route: Sump

City, State, Zip Code: Sump

Facility Well No. and/or Name (If Applicable)

WI Unique Well No.

Reason For Abandonment: Well was clean

Date of Abandonment: 5/14/93

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On

(Date) 05/14/92

☒ Monitoring Well
☐ Water Well
☐ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify)

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 20.3' (From groundsurface) Casing Diameter (ins.) 2"

Casing Depth (ft.) 20.3'

Was Well Annular Space Grouted? ☐ Yes ☒ No ☐ Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) 8.45.67

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	

If No, Explain

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) Dumped

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume (Circle One)	Mix Ratio or Mud Weight
Bentonite Chips 3/8"	Surface	20.3'	1 50lb bag	

(8) Comments:

(9) Name of Person or Firm Doing Sealing Work: Rick Kriefske

Signature of Person Doing Work: Rick Kriefske

Date Signed: 5/14/93

Street or Route: 2777 W. Silver Spring

Telephone Number: (414) 783-5002

City, State, Zip Code: Butler, WI 53007

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

WISCONSIN
DEPT. OF NATURAL RESOURCES

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

April 15, 1993

File Ref:

Robert Knighton
Milwaukee County Department of Public Works
Engineering, Environmental & Energy Services
Courthouse Annex, Rm 314
907 North 107th Street
Milwaukee, WI 53223

Dear Mr. Knighton:

RE: PECFA Form 4, petroleum contamination at Timmerman Field (C-26, 27) 9305 West Appleton Avenue, Milwaukee

I have signed your PECFA Form 4 based on documents submitted by Simon Hydro-Search on your behalf. I am sending the form to the DILHR with a copy of this letter. I agree with your consultant in that no additional remedial work is needed concerning this tank system at the site. Should environmental problems occur in the future that may be related to the former system, you may be required to take additional action. Please properly abandon the monitoring wells at the site and submit the documentation to me within 30 days.

Sincerely,

John Feeney
Hydro, Tank Response Unit

cc: Simon
SED File
DILHR

Wisconsin Department of Industry,
Labor and Human Relations
Safety and Buildings Division

FORM 4

DNR SITE INVESTIGATION AND REMEDIAL ACTION PLAN REVIEW

Bureau of Petroleum Inspection
and Fire Protection
P.O. Box 7969
Madison, WI 53707
(608) 267-4545
(608) 267-7538
(608) 266-9420

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.

DNR Use Only

Any DNR / DOJ Enforcement Action(s) or DNR LUST Trust Expenditures on this site? ☐ Yes ☐ No

If answer is yes, please provide pertinent details on attached sheet.

Claimant's Name	Remedial Action Site Name (if business)
MILWAUKEE COUNTY	TIMMERMAN FIELD (C-26, 27)
Street Address	**Remedial Action Site Address**
907 NORTH 10TH STREET	9305 W. APPLETON AVE.
City, State, Zip Code	**City, State, Zip Code**
MILWAUKEE, WI 53233	MILWAUKEE, WI 43225
Claimant's Telephone Number	**Telephone Number of Site**
(414) 278-4891	(414) 278-4891

Claimant is
☒ Owner ☐ Operator ☐ Other - please specify:

Approval requested for: ☒ Petroleum Product Storage System ☐ Home Oil Tank System ☐ Aboveground

FOR DNR USE ONLY (Indicate Whether Completed Remedial Action or Other Action(s))

A copy of this completed document must be submitted to DNR for approval of initial activities (emergency action, site investigation and remediation) in accordance with s. 101.143 (3) (c) 4, Wis. Stats.

☒ Completed Remedial Action (complete cleanup and single claim for reimbursement) (Steps 1 through 3)

Progress Payments For:

☐ Emergency Action (Step 1 - check only if emergency action was performed)

☐ Completion of Site Investigation (Step 1) and Proposed Remedial Action Plan (Step 2)

☐ Remedial Action (Step 3)

☐ Operation/Maintenance and Environmental Monitoring (annual claim for remedial action activities) (Step 4)

☐ Site Investigation **By Order** of DNR And/Or DILHR - No Remedial Action

Check Appropriate Box(es)

The DNR received a request for approval of the above identified activities for the site listed on this document on the following date 3/10/93.

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.

Reviewer's Signature John Feeney Date Signed 4/5/93

Reviewer's Title Hydro 20

3/10/93

SIMON HYDRO-SEARCH

175 N. Corporate Drive
Suite 100
Brookfield, WI 53045

Telephone (414)792-1282
Facsimile (414)792-1310

March 5, 1993
(255115363)

Mr. Charles J. Krohn
Mr. John Feeney
WDNR Southeast District - Annex Building
P.O. Box 12436
4041 N. Richards Street
Milwaukee, WI 53212

RE: WDNR Letter of January 27, 1993, Concerning Timmerman Field (C-26, 27)
9305 West Appleton Avenue, Milwaukee

Dear Sirs:

The referenced WDNR letter requested an additional monitor well be installed east of the underground storage tank (UST) excavation to intersect the contaminant plume. The Wisconsin Department of Natural Resources' (WDNR's) reason for requiring an additional well is based on an impacted water sample obtained from the UST excavation at the time of removal/upgrade (December, 1990).

Simon Hydro-Search offers the following justification for closing the site without installing this additional monitor well:

- The additional monitor well cannot be installed to the immediate east of the UST excavation due to the presence of electrical, sewer, and water utilities between the USTs and the building located approximately 10 feet away.

- The only available location east of the UST excavation is east of the building, approximately 60 feet to 70 feet from the UST excavation. Based on the dense silty clay and other site hydrogeologic information, this is too large a distance to provide meaningful information on the extent of impacts.

- Water levels of the three existing monitor wells were checked on February 4, 1993 following receipt of Mr. Feeney's letter. The depth to water (DTW) below the top of casing for the June 9, 1992 measurements and the February 4, 1993 measurements are tabulated below:

Monitor Well Designation	Date	DTW (Feet)
MW-1	6/9/92	9.76
	2/4/93	4.54
MW-2	6/9/92	2.84
	2/4/93	10.99
MW-3	6/9/92	6.28
	2/4/93	3.64

- The June 9, 1992 water levels were used to infer that the ground-water flow direction was to the east in the August 14, 1992 report. The February 4, 1993 water levels dispute this inference. The variability in the ground-water levels in the wells is reflective of variability in the amount of surface infiltration surrounding each well. Due to the wide variation in the water levels, no reliable determination of the ground-water flow direction can be made.

- Based on the absence of ground water in the UST excavation to 20 feet at the Milwaukee County Timmerman Airport Gran-Aire facility located approximately 1,000 feet southwest of this site, the ground water present at the C-26 and C-27 site is probably perched and does not represent the permanent water-table surface.

- The impacted water sampled was obtained from the UST excavation at the time of impacted soil excavation and removal. Residual petroleum impacts resulting from the excavation equipment may have caused the observed impacted ground water.

- At the time of UST removal/upgrading, all four soil samples taken in native material at the base of the excavation contained laboratory total petroleum hydrocarbon concentrations of less than 3 parts per million (ppm). This included a sample on the east (NE) wall at 0.148 ppm. Based on this information, it is reasonable to infer that no residual soil contamination exists and that the native soils at the excavation boundaries are clean. If impacted ground water is present beyond the limits of the UST excavation, the perimeter and floor soil samples would not be clean.

In consideration of these site specific details, Simon Hydro-Search again requests that closure be granted at this site.

I trust this information meets your needs. Should you have any questions, please do not hesitate to call.

Sincerely,

SIMON HYDRO-SEARCH

Daniel L. Morgan

Daniel L. Morgan, P.E.
Senior Engineer

DLM:cb

Copy: Mr. Rob Knighten, Milwaukee County DPW, Courthouse Annex, Room 314

DLM

WISCONSIN
DEPT. OF NATURAL RESOURCES

Carroll D. Besadny
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

January 27, 1993

File Ref:

Milwaukee County Department of Public Works
Robert L. Knighton
Engineering, Environmental & Energy Services
Courthouse Annex, Rm 314
907 North 107th Street
Milwaukee, WI 53223

Dear Mr Knighton:

RE: Petroleum contamination at Timmerman Airport, 9305 West Appleton Avenue, Milwaukee (2 USTs C-26, C-27)

I have looked at your case based on the UST closure assessment and the remedial investigation report in our file. I request that a well be completed and sampled directly downgradient form the former tank bed location for the following reasons:

1. A water sample taken from the tank excavation was contaminated above enforcement standards.

2. The wells in place may not be in a position to intersect the contaminant plume.

Sincerely,

John Feeney,
Hydro, Tank Response Unit

cc: Simon Hydro Search
SED File

Soil sample @ NE @ 11 feet had lowest TPH lab result of .148 ppm

WISCONSIN
DEPT. OF NATURAL RESOURCES

Carroll D. Besadny
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

January 27, 1993

File Ref:

Milwaukee County Department of Public Works
Robert L. Knighton
Engineering, Environmental & Energy Services
Courthouse Annex, Rm 314
907 North 107th Street
Milwaukee, WI 53223

Dear Mr Knighton:

RE: Petroleum contamination at Timmerman Airport, 9305 West Appleton Avenue, Milwaukee

I have looked at your case based on the UST closure assessment and the remedial investigation report in our file. I request that a well be completed and sampled directly downgradient form the former tank bed location for the following reasons:

1. A water sample taken from the tank excavation was contaminated above enforcement standards.

2. The wells in place may not be in a position to intersect the contaminant plume.

Sincerely,

John Feeney,
Hydro, Tank Response Unit

cc: Simon Hydro Search
SED File

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: October 20, 1992 FILE REF:

TO: John Feeney - SED

FROM: Mark Janowiak - SW/3

SUBJECT: Timmerman Field remedial investigation

There is a definite problem here. A groundwater sample taken at the base of the excavation showed benzene (56.7 ppb), toluene (2,784 ppb) and xylenes (2183 ppb). Additional monitoring wells were place on three sides of the excavation and showed no BTEX contamination. Unfortunately, no monitoring well was placed on the fourth side which was downgradient of the excavation.

I am forwarding this report to you as a release to be taken up by the closure committee. I think that at the very least another monitoring well should be installed downgradient of the tank site. Call me if you have any questions at 608 264-6041.

SIMON HYDRO-SEARCH

175 N. Corporate Drive
Suite 100
Brookfield, WI 53045

Telephone (414)792-1282
Facsimile (414)792-1310

REMEDIAL INVESTIGATION
FOR
TIMMERMAN FIELD SITE
(USTS C-26 AND C-27)

August 14, 1992

Prepared For:

Milwaukee County of Public Works
Engineering, Environmental and Energy Services
Courthouse Annex, Room #314
907 North 10th Street
Milwaukee, Wisconsin 53233

Prepared By:

Simon Hydro-Search
Brookfield Lakes Corporate Center XII
175 North Corporate Drive, Suite 100
Brookfield, Wisconsin 53045

Project No. 255115363

Michael R. Noel, Sr. Vice President
Manager, Milwaukee Operations

Daniel L. Morgan, P.E.
Manager, Storage Tank Services

SIMON Environmental

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FIGURES

APPENDICES

1.0 EXECUTIVE SUMMARY

Simon Hydro-Search was contracted by the County of Milwaukee, Wisconsin, to provide environmental consulting and related professional services for the Timmerman Field (USTs C26 & C27) site as part of the Milwaukee County Underground Storage Tank (UST) Management Program. Timmerman Field is located at 9305 West Appleton Avenue in the City of Milwaukee, Wisconsin, in the SW 1/4 of the NE 1/4 of Section 32, T8N, R21E, in Wauwatosa, Wisconsin. During an earlier phase of the County's program one 8,000 gallon diesel fuel UST was replaced and one 8,000 gallon gasoline UST was compliance upgraded in December of 1990 under the supervision of Foth and Van Dyke of Milwaukee, Wisconsin. Soil samples collected during the UST replacement/upgrade exhibited no levels of petroleum hydrocarbons above the 10 part per million Wisconsin Department of Natural Resources guideline. A water sample collected from pooled water in the UST excavation at that time contained levels of benzene, toluene, and xylenes above Wisconsin Administrative Code NR 140 Enforcement Standards. The presence of impacted ground water at the base of the excavation required that soils and ground water away from the excavation be investigated to determine if a petroleum release had impacted native soils and ground water.

The USTs are located immediately west of a service building at the northeast end of the airport directly south of Sheridan Avenue. Several buried utilities are located between the USTs and the service building. On May 14, 1992, three soil borings were completed as ground-water monitor wells to the north, west, and south of the UST installation. The borings were completed to approximately 20 feet in depth with the resulting ground-water monitor wells being screened from 8 to 18 feet. Soil samples selected for laboratory analyses were from the 11-15 foot below grade interval, immediately above the saturated zone, and were analyzed for Diesel Range Organics (DRO), Gasoline Range Organics (GRO), Petroleum Volatile Organic Compounds (PVOCs), and lead. No soil samples exhibited DRO levels above 10 parts per million (ppm), GRO levels above 5 ppm, and PVOC levels above 50 parts per billion. Lead was not detected above 4 ppm, well within the range of natural occurrence.

Ground-water samples were collected from the three monitor wells on May 11, 1992, and analyzed for DRO, GRO, and volatile organic compounds (VOCs). No concentrations of VOCs were detected above laboratory detection limits or above the Preventive Action Limits of Wisconsin Administrative Code NR 140. DRO and GRO were not detected above the 0.10 ppm laboratory detection limits.

No soil impacts were found during the UST replacement/upgrade and the boring/monitor well installation. No further soil investigation or remediation is recommended. No ground-water impacts were found in the monitor wells installed around the UST excavation. The ground-water sample taken during the UST replacement/upgrade, while impacted, was not representative of the ground-water quality in the area and should not be regarded as such. The impermeable soils surrounding the UST excavation will cause any minor impacts

present in the UST backfill to remain in place. No further ground-water investigation or remediation is necessary.

Simon Hydro-Search recommends that the Timmerman Field (USTs C-26 & 27) site be closed and that a closure letter be requested of the Wisconsin Department of Natural Resources.

2.0 INTRODUCTION

Simon Hydro-Search was contracted by the County of Milwaukee, Wisconsin to provide environmental consulting and related professional services for the Timmerman Field site (USTs C-26 and C-27) as part of the Milwaukee County Underground Storage Tank (UST) Management Program. One 8,000-gallon fiberglass UST used to store diesel fuel was replaced and one 8,000-gallon fiberglass UST used to store unleaded gasoline was compliance upgraded in December of 1990 under the supervision of Foth and Van Dyke of Milwaukee, Wisconsin.

Soil screening with a photoionization detector (PID) during excavation work detected volatile organic compound (VOC) concentrations at less than 10 parts per million (ppm). Soil samples for laboratory analyses were collected from 1 to 2-foot depths below the southeast and northwest inverts of the diesel UST, the northeast excavation wall, and below the northwest invert of the unleaded gasoline UST. Laboratory results on all soil samples yielded total petroleum hydrocarbon (TPH) concentrations below Wisconsin's 10 ppm action limit. Laboratory results from a ground-water sample taken within the excavation pit yielded benzene, toluene, and xylene concentrations greater than the Wisconsin NR140 Enforcement Standards.

On May 14, 1992, Simon Hydro-Search completed three soil borings to the north, south, and west of the operating USTs and converted all three to ground-water monitor wells. Soil and ground water were sampled at each location to determine if any petroleum hydrocarbon impacts from the USTs were present away from the excavation in levels above the Wisconsin Department of Natural Resources (WDNR) guidelines for soils or the Public Health Quality Standards as outlined in Wisconsin Administrative Code NR 140.10 pertaining to ground water.

2.1 Background

2.1.1 Site Description

Timmerman Field is located at 9305 W. Appleton Avenue in the city of Milwaukee, Wisconsin, in the SW 1/4 of the NE 1/4 of Section 32, T8N, R21E in Wauwautosa, Wisconsin (Figure 2-1). The client and property owner is the County of Milwaukee. The USTs remain in service and are used to fuel support and maintenance vehicles used at the airport. The unleaded gasoline UST has been in service for 16 years. The diesel fuel UST is new as of December of 1990.

The USTs and delivery pumps are located immediately west of a service building at the northeast end of the airport (Figure 2-2). To the north a chain link fence marks the property boundary and separates the airport and Sheridan Avenue. The surface over the USTs is paved with concrete and is surrounded by asphaltic concrete. Electrical, water, and sewer lines are located between the USTs and the service building.

2.1.2 Geology and Hydrogeology

Unconsolidated deposits in Milwaukee County are predominantly glacial drift of Pleistocene age ranging between 0 and 450 feet in thickness. Glacial drift consists largely of till which is a heterogeneous mixture of material ranging from clay to boulders deposited by the melting ice of glaciers. The uppermost bedrock surface underlying the County is formed by the Niagara Dolomite of Silurian age.

The principal geologic structure of the Milwaukee area is a monocline in which underlying resistant and non-resistant bedrock units dip gently eastward into the Michigan basin. Surface elevations range between approximately 950 and 580 feet msl. Relief is fairly minor except along the Lake Michigan shoreline bluffs where elevations drop approximately 120 feet. Surface drainage primarily comes from the Milwaukee River system into Lake Michigan.

The principal shallow aquifers in the Milwaukee area are the Pleistocene sands and gravels and the Niagara Dolomite. The Niagara Dolomite is an important aquifer and relied upon for numerous domestic and industrial water supplies, yielding water readily where joints and bedding planes have been enlarged by solution. Regional ground-water flow is predominantly to the east, into Lake Michigan.

2.1.3 Local Conditions

At the tank site, layered brown and black silty clays were encountered to a depth of 12 feet below ground surface. Ground water was encountered at a depth of approximately 12 feet below ground surface. Surface elevations at the airport range between approximately 750 and 720 feet msl, while the tank site is approximately 740 feet msl. Airport surface drainage is primarily into Milwaukee's sewer system.

3.0 FIELD PROCEDURES

3.1 Soil Borings

On May 14, 1992, three soil borings were completed as ground-water monitor wells at the locations shown on Figure 2-2. Documents describing field procedures for drilling and equipment decontamination, field screening of soils with a PID, and logging of soils were included in the May 1, 1992 Simon Hydro-Search Work Plan submitted to the WDNR and to Milwaukee County.

The first soil boring, completed as monitor well 1 (MW-1), was placed to the north of the USTs and outside the chain link fence approximately 19 feet from the north edge of the UST excavation (Photograph #2, Appendix A). The boring was completed to a depth of 20.5 feet below ground surface. Soil samples were collected following WDNR recommended procedures as outlined in "LUST Release!, Volume 2, Number 3, April 1992". Approximately 25 grams of soil from each split spoon sample were placed in tared vials provided by the laboratory, sealed, labeled and placed on ice. After the boring and field screening of soil samples were completed, the sample with the highest PID reading was selected for laboratory analyses. Field screening results are provided in Appendix B. The last two soil borings , also completed as monitor wells (MW-2 and MW-3), were installed to the west and south of the UST excavation as shown on Figure 2-2 using similar procedures (Photographs #3-4, Appendix A).

Three soil samples, one from each boring, were submitted to Precision Analytical Laboratory under chain of custody. Precision Analytical is a Wisconsin State Certified Environmental Laboratory. The soil samples were analyzed for Diesel Range Organics (DRO), Gasoline Range Organics (GRO), and Petroleum Volatile Organic Compounds (PVOCs) using methods outlined by the WDNR. WDNR Form 4400-122, Soil Boring Log Information, was completed for each boring and is included in Appendix C.

3.2 Ground-Water Monitor Wells

The three borings were completed as ground-water monitor wells (MW-1,2 and 3) using 2-inch diameter PVC construction as detailed in the Simon Hydro-Search Work Plan dated May 1, 1992. Each well was screened from 8 to 18 feet below surface grade. WDNR Form 4400-113A detailing each well's construction is included in Appendix D.

3.3 Water Level in Wells

The water levels in the three wells were initially recorded on May 20, 1992. Following water level measurement, the three wells were purged using dedicated disposable teflon bailers to determine relative rates of recovery and in preparation for sampling. MW-1 exhibited a negligible water level above the bottom of the well, bailed dry, and showed very little recovery over a three hour time period. Similarly, MW-2 and 3 also bailed dry and recovered very slowly. Field data on the May 20, 1992 water levels is contained in Appendix E.

Water levels were again field-checked on May 22, 1992 to determine relative recovery. The recovery in MW-1 was not adequate to allow sufficient water volume for a laboratory sample to be collected. Water level data for May 22, 1992 is also presented in Appendix E.

3.4 Ground-Water Samples

On June 9, 1992 the water levels of the three wells were once again recorded prior to being bailed dry. The wells were then sampled on June 11, 1992 with the ground-water samples being collected using procedures detailed in the May 1, 1992 work plan and transmitted to PAL under proper chain of custody. Water level data for the June 9 and 11 measurements is contained in Appendix E, along with field water quality data.

4.0 RESULTS

4.1 Field Results

Soil borings MW-1 through MW-3 were completed to a depth of approximately 20 feet below ground surface to the north, west, and south of the operating USTs and dispensers. A service building is located to the east. Soil samples were collected at 2 foot intervals and field screened for VOCs. Results of the field screening revealed trace levels of VOCs (less than 1 ppm benzene equivalent).

Water levels were measured at several times following well installation and the wells were bailed dry twice prior to sampling. The ground water was clear in appearance and gave off no odors. The water levels noted were highly variable from well to well and inconclusive as to ground-water flow direction. The recovery rates of the wells indicate impermeable native soils surround the UST installation.

4.2 Laboratory Results

4.2.1 Soil

Four soil samples were collected during the UST removal/upgrade in November of 1990. Laboratory analyses of these samples exhibited no TPH levels above 3 ppm. The WDNR guideline for soils is 10 ppm. Laboratory results for these soil samples were previously provided in the January 3, 1991 site closure report for the Timmerman Field Diesel Fuel Tank Removal and Gasoline Tank (Nos. C-26 and C-27) Compliance Upgrade conducted by Foth & Van Dyke.

Subsequently, three soil borings were completed on May 14,1992, with one soil sample from each being submitted for laboratory analyses. The soil borings were installed to verify no soil impacts away from the UST excavation and to allow ground-water monitor well installation. The laboratory soil samples exhibited no DRO levels above 10 ppm, no GRO

levels above 5 ppm, and no PVOC levels above 50 parts per billion (ppb). Lead levels in the soil were below 4 ppm, well within the natural occurring range. Laboratory results and chain of custody for the soil samples are contained in Appendix F.

4.2.2 Ground Water

One ground-water sample (MC-TF-GW) was collected on November 14, 1990 during the UST removal/upgrade performed by Foth & Van Dyke. The sample was collected from water that had pooled in the bottom of the excavation. Results of the laboratory analyses indicated benzene (56.7 ppb), toluene (2,784.3 ppb), and xylenes (2183 ppb) at concentrations above the Enforcement Standard outlined in Wisconsin Administrative Code NR 140.

Ground-water samples were collected from monitor wells MW-1, MW-2, and MW-3 on May 11, 1992 and analyzed for VOCs. No concentrations of VOCs were detected above laboratory detection limits or above the Preventive Action Limits of Wisconsin Administrative Code NR 140. The ground-water samples were also analyzed for DRO and GRO and exhibited no levels above the 0.10 ppm laboratory detection limit for these analytes. No NR140 limits currently exist for DRO and GRO. Laboratory analytical data is provided in Appendix G. Only the data from monitor wells MW-1, MW-2, and MW-3 is relevant to this report and the balance of the Appendix G data should be disregarded.

Ground-water flow direction, using unsurveyed wells, is shown on Figure 2-2 (surface elevation is relatively flat). The water levels taken on June 9, 1992 were used to approximate the flow direction (Appendix E). The approximate flow direction is to the east-northeast, apparently away from the Menomonee River which is located to the west-northwest.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Three soil borings completed as ground-water monitor wells were installed at the Timmerman Field site to verify that no soil or ground-water impacts were present away from the UST excavation.

5.1 Soil

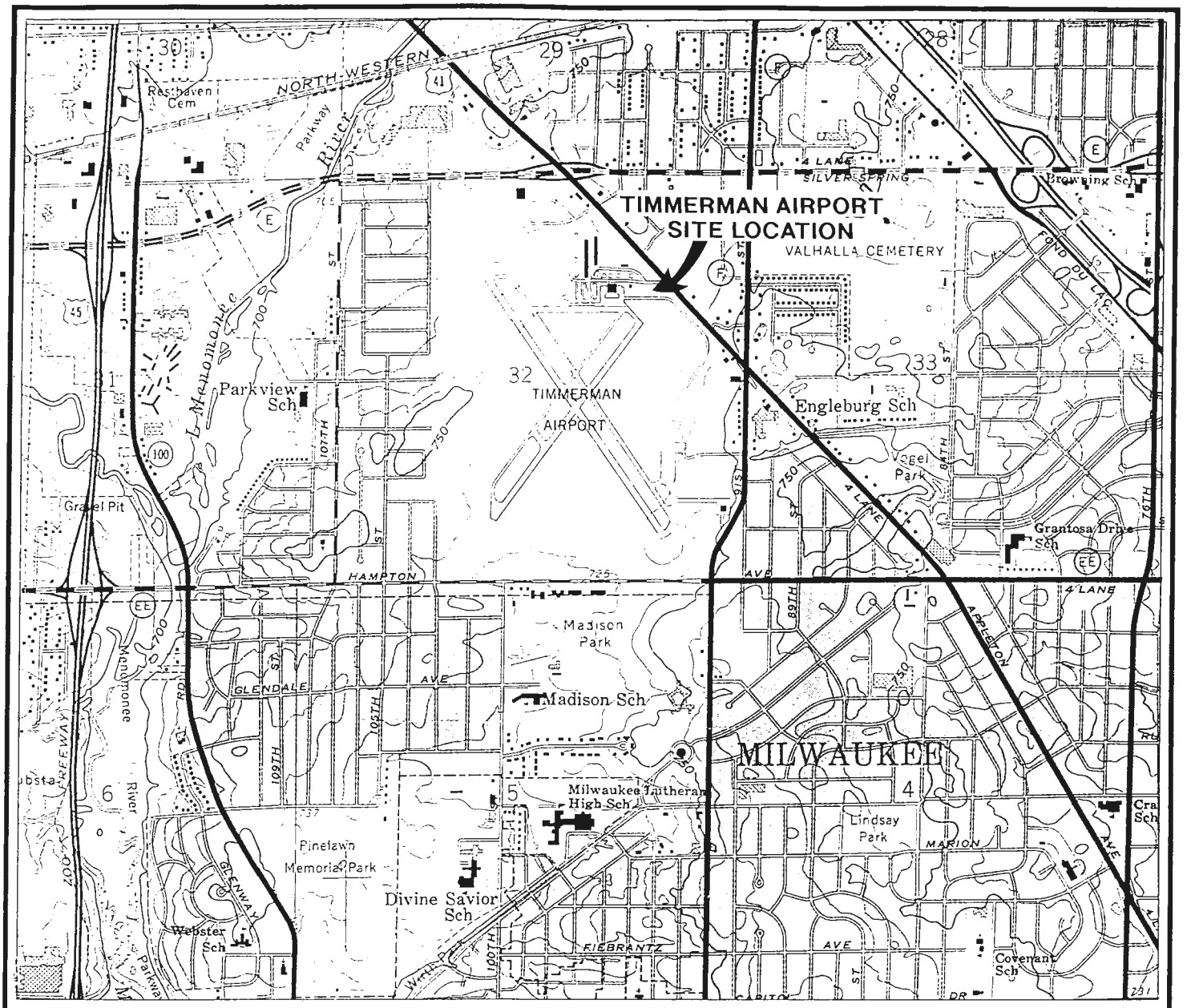
No soil impacts were found during the UST replacement/upgrade and the boring/monitor well installation away from the UST excavation. No further investigation or remediation is necessary.

5.2 Ground Water

No ground-water impacts were found in the monitor wells installed around the UST excavation. The ground-water sample taken during the UST replacement/upgrade, while impacted was not representative of the ground-water quality in the area and should not be regarded as such. WDNR publications in the past have cautioned against sampling pooled water within a UST excavation. The impermeable soils surrounding the UST excavation will cause any minor impacts present in the UST backfill to remain in place. No further investigation or remediation is necessary.

5.3 Site Closure

Simon Hydro-Search recommends that the Timmerman Field (USTs C-26 & 27) site be closed and that a closure letter be requested of the Wisconsin Department of Natural Resources.



QUADRANGLE LOCATION

SCALE

0 5000

FEET

National Geodetic Vertical Datum of 1929
Contour Interval 10 Feet

N

Base map from U.S.G.S. 7.5' Wauwatosa, WI topographic quadrangle map, photorevised 1976.

SIMON HYDRO-SEARCH

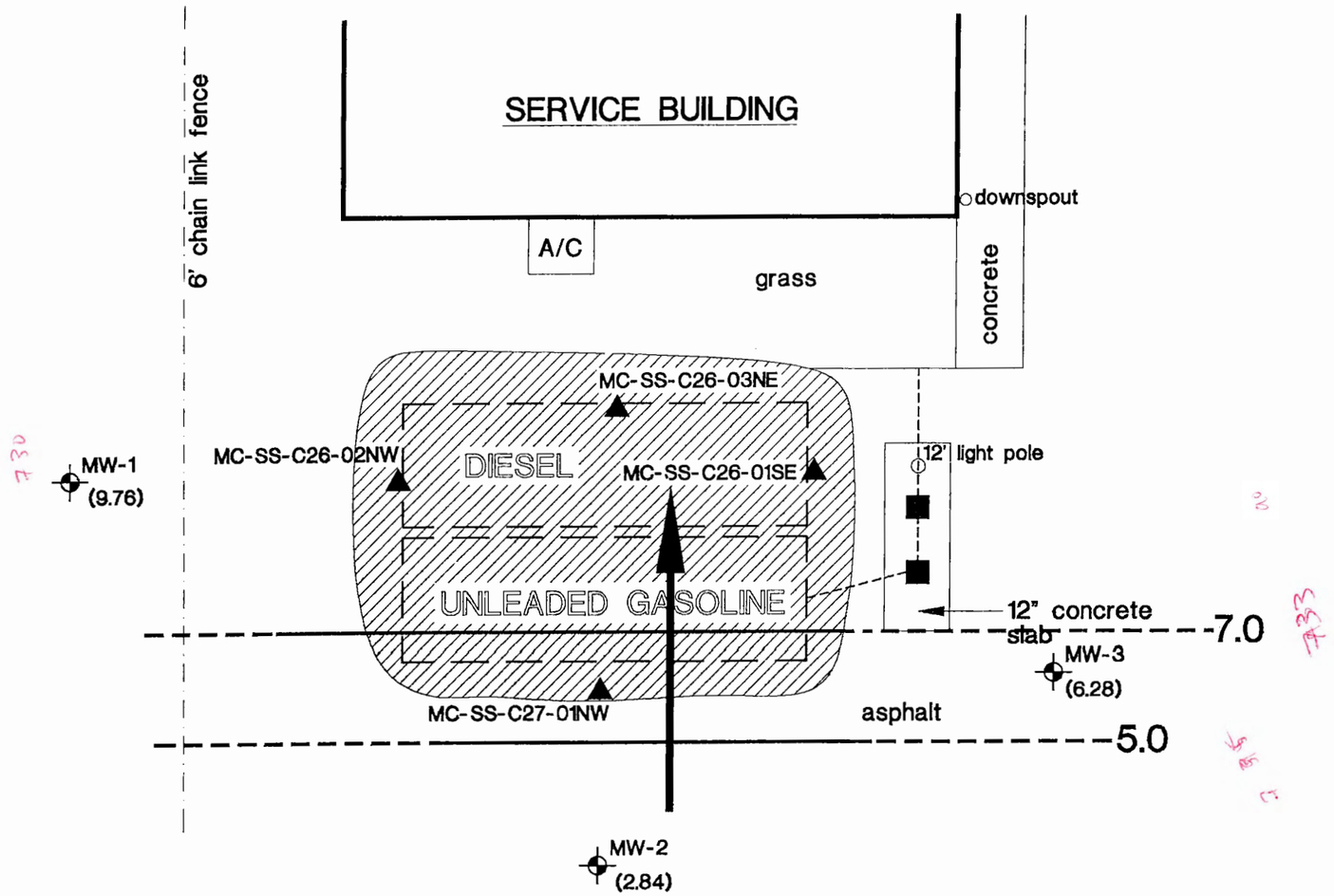
Brookfield Lakes Corporate Center XII
175 N. Corporate Drive, Suite 100
Brookfield, Wisconsin 53045

MILWAUKEE COUNTY UST MANAGEMENT
TIMMERMAN AIRPORT SITE

SITE LOCATION and LOCAL TOPOGRAPHY

Dsgn. by:	Chk. by:	Apprv. by:
PROJECT: 255115363	DATE: 04/23/92	DRAWING NO.: 1536-1

FIGURE: 2-1



EXPLANATION

- EXCAVATION LIMITS
- MC-SS-C27-01NW — EXCAVATION SOIL SAMPLE LOCATION AND DESIGNATION
- MW-1 (9.76) — MONITOR WELL LOCATION AND DESIGNATION WITH WATER LEVEL OF 06/09/92
- FORMER UNDERGROUND STORAGE TANK LOCATION
- FUEL PUMP
- 7.0 — WATER LEVEL DEPTH CONTOUR - DASHED WHERE INFERRED
- GROUND WATER FLOW DIRECTION

N

SCALE

0 30

Feet

SIMON HYDRO-SEARCH
Brookfield Lakes Corporate Center XII
175 N. Corporate Drive, Suite 100
Brookfield, Wisconsin 53045

Dsgn. by:	Chk. by:	Apprv. by:
PROJECT: 255115363	DATE: 08/11/92	

MILWAUKEE COUNTY UST MANAGEMENT
TIMMERMAN FIELD SITE

EXCAVATION SITE LOCATION

DRAWING NO.: 1536-3 | FIGURE: 2-2

APPENDIX A
PHOTODOCUMENTATION

PHOTODOCUMENTATION

1. View looking northeast, with Sheridan Avenue outside chain link fence and UST cover slab in front of service building. Note MW-2 in foreground.

2. View looking south, with MW-1 in foreground and pump island at south end of USTs.

3. View looking east showing UST vents against building and MW-2 in foreground.

4. View looking southeast, showing completion of MW-3 at south of pump island.

4

3

2

1

APPENDIX B
FIELD PID DATA FORMS

Site: Timmerman Airport

Project No: 255115363

Date: 5/14/92

Personnel:

Meter No:

Probe eV: 11.7

FIELD PID DATA FORM

MW-1

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
1	SO	1-3	D	0821	0910	47°	0.8	1.4	
2	SO	3-5	D	0826	0912		0.8	1.6	
3	SO	5-7	D	0831	0913		0.9	1.7	
4	SO	7-9	M	0841	0926		0.9	1.6	
5	SO	9-11	M	0853	0944		0.9	1.6	
6	SO	11-13	M	0909	0945		0.9	1.6	Samples for DRO, GRO, PVOCs, Pb
7	SO	13-15	M	0917	0945		0.9	1.6	
8	SO	15-17	M	0924	0950		0.9	1.5	
9	SO	17-19	M	0934	0959		0.9	1.5	

(1) SO - Soil
SD - Sediment
GW - Ground Water
SW - Surface Water
WS - Waste (Solid)
WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

SIMON

Site: Timmerman Airport

Project No: 255115363

Date: 5/14/92

Personnel:

Meter No:

Probe eV: 11.7

FIELD PID DATA FORM

tw-2

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
1	SO	1-3	D	10:52	11:30	48°	0.9	1.5	
2	SO	3-5	D	10:55	11:31		0.9	1.5	
3	SO	5-7	D	11:04	11:31		0.9	1.5	
4	SO	7-9	D	11:09	11:44		0.9	1.5	
5	SO	9-11	D	11:15	11:45		0.9	1.5	
6	SO	11-13	D	11:24	11:54		0.9	1.5	Sample S.v. DRO, GRO PVOCs, Pb
7	SO	13-15	M	11:34	12:05		0.9	1.5	
8	SO	15-17	M	11:41	12:20		0.9	1.5	
9	SO	17-19	M	11:53	12:25		0.9	1.5	

(1) SO - Soil
SD - Sediment
GW - Ground Water
SW - Surface Water
WS - Waste (Solid)
WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

SIMON HYDRO-SEARCH

Site: Timmerman Field Airport

Project No: 255115363

Date: 5/14/92

Personnel:

Meter No:

Probe eV: 11.7

FIELD PID DATA FORM

MW-3

Sample Number	Sample Media (1)	Location/ Depth	Moisture (2)	Time Sample Collected	Time Sample Analyzed	Volatilization Period Air Temp (C)	PID Readings (ppm) Background	PID Readings (ppm) Peak Response	Comments
1	SO	1-3	D	1:30	2:09	55	0.9	1.6	
2	SO	3-5	D	1:36	2:10		0.9	1.5	
3	SO	5-7	D	1:50	2:29		0.9	1.6	
4	SO	7-9	D	1:59	2:30		0.9	1.5	
5	SO	9-11	D	2:05	2:40	60	0.9	1.6	
6	SO	11-13	D	2:15	2:45		0.9	1.6	Sample: GRO, DRO, PVOCs, Pb
7	SO	13-15	D	2:20	2:58		0.9	1.5	
8	SO	15-17	M	2:24	2:59	65	0.9	1.6	
9	SO	17-19	M	2:34	3:10		0.4	1.5	

(1) SO - Soil
SD - Sediment
GW - Ground Water
SW - Surface Water
WS - Waste (Solid)
WL - Waste (Liquid)

(2) D - Dry
M - Moist
W - Wet
S - Saturated

SIMON HYDRO-SEARCH

APPENDIX C
WDNR FORM 4400-122
SOIL BORING LOG INFORMATION

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page _____ of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Timmerman Field (USTs C-26, C-27)	— — — — — — — —	MW-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
Sauter Drilling	05/14/92	05/14/92	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —		_____ Feet MSL	_____ Feet MSL	8 inches

Boring Location
State Plane _____ N, _____ E S/C/N Lat ___ ___ ___
_____ 1/4 of NE 1/4 of Section 32, T 7 N, R 21 E/W Long ___ ___ ___

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Milwaukee	— —	Milwaukee

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	10	3,4, 4,5		0-1': Black silty clay (topsoil)				0.6		D				
	14	4,7, 11,10	5	1-14': Silty Clay, with trace of fine sand + gravel	CL			0.8						
	15	5,7, 17,20		Brown (10YR 4/4)				0.8						
	22	4,7, 13,19		No Odor				0.7		M				
	24	4,7, 11,14	10					0.7						
MW-1-7 (13-15)	24	5,9, 14,15						0.7						
	24	5,7, 10,13						0.7						
	24	5,6, 9,10	15	14-17': Silty Clay, trace of Fine gravel, Grey-Brown (10YR 5/2) No Odor	CL			0.6		M				
	24	4,5, 6,9		17-20.5': Silty Clay, trace of fine gravel, Grey (10YR 5/1)	CL			0.6						
			20											

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

Signature: Geoff W Rusmeyer Firm: Vijay Environmental Inc.

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page _____ of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Timmerman Field (UST, C-26, C-27)	_ _ _ _ _ _ _	MW-2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
Sauter Drilling	05/14/92	05/14/92	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _	_ _ _ _ _ _ _		_____ Feet MSL	_____ Feet MSL	8 inches

Boring Location
State Plane _____ N, _____ E S/C/N | Lat _ _ _ _ _ _ | Long _ _ _ _ _ _
_____ 1/4 of NE 1/4 of Section 32, T 8 N, R 21 ☐E/W

Local Grid Location (If applicable)
_____ Feet ☐N ☐S _____ Feet ☐E ☐W

County	DNR County Code	Civil Town/City/ or Village
Milwaukee	_ _ _	Milwaukee

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	15	5,4, 5,10		0-1': Asphalt, gravel + sand										
				1-5': Silty Clay, trace of fine Sand. Grey + Brown mottled	CL			0.6		D				
	12	4,4, 9,9	5					0.6						
		5,8, 16,13		5-12': Silty Clay, trace of fine gravel. Brown (10YR 4/3) No Odor	CL			0.6						
	19	5,7, 11,11						0.6						
	24	4,5, 9,9	10					0.6						
	20	5,6, 9,10								M				
N 2.6 (11-13)	24	4,6, 7,7		12-14': Silty Clay. Grey Brown (10YR 5/2)	CL			0.6						
	24	2,5, 5,8	15	14-20.5': Silty Clay. Grey (10YR 5/1)	CL			0.6		M				
	24	3,3, 4,5						0.6						
			20											

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

Signature	Firm
Neil W. Ramey	Vijay Environmental Inc.

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page _____ of _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Timmerman Field (USTs C26, C27)	_ _-_ _ _ _ _ _	MW-3

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started (M M D D Y Y)	Date Drilling Completed (M M D D Y Y)	Drilling Method
Sauter Drilling	05/14/92	05/14/92	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_ _ _	_ _ _ _ _ _ _ _		_____ Feet MSL	_____ Feet MSL	8 inches

Boring Location
State Plane _____ N, _____ E S/C/N | Lat _____ Long _____
_____ 1/4 of NE 1/4 of Section 32, T 8 N, R 21 (E)W

Local Grid Location (If applicable)
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Milwaukee	_ _	Milwaukee

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			0	0-1': Asphalt, sand + Gravel										
	15	3,3, 4,7		1-3.5': Silty Clay, trace of fine gravel + sand. Grey, No Odor.	CL			0.7						
	19	2,4, 4,6	5					0.6						
	18	3,4, 7,10		3.5-15.5': Silty Clay, + race of fine gravel, No Odor Brown (10YR 5/3)	CL			0.7						
	20	4,7, 9,11						0.6						
	24	3,6, 8,12	10					0.7						
MW3-6	23	4,9, 9,10						0.7						
	24	4,4, 7,8	15					0.6						
	11	2,5, 9,8		15.5'-20': Silty Clay, trace of fine gravel, No Odor. Gray-Brown (10YR 5/2) + o Grey (10YR 5/1)	CL			0.7						
	24	4,5, 7,8	20					0.6						

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

Signature _____ Firm _____

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

APPENDIX D

WDNR FORM 4400-113A

MONITORING WELL CONSTRUCTION

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A - 5-89

Facility/Project Name: Zimmerman Field (UST: C-26, C-27)	Grid Location: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-1
Facility License, Permit or Monitoring Number: _____		Wis. Unique Well Number: _____ DNR Well Number: _____
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location: ____ 1/4 of NE 1/4 of Section 32, T 8 N. R 21 ☒ E ☐ W	Date Well Installed: 05/14/92 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 20 ft.	Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☐ Not Known	Well Installed By: (Person's Name and Firm) Sauter Drilling / Vijay Environmental Inc. Neil Rismeyer
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No		

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis):
_____

E. Bentonite seal, top _____ ft. MSL or _____ ft.
F. Fine sand, top _____ ft. MSL or 7 ft.
G. Filter pack, top _____ ft. MSL or 8 ft.
H. Well screen, top _____ ft. MSL or 10.2 ft.
I. Well screen, bottom _____ ft. MSL or 20.2 ft.
J. Filter pack, bottom _____ ft. MSL or _____ ft.
K. Borehole, bottom _____ ft. MSL or 20.5 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.25 in.
N. I.D. well casing 2.0 in.

1. Cap and lock? ☐ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 12 in.
c. Material: Steel ☒ 0; Flush Mount; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 3; Concrete ☐ 0; Granular; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☐ 3; Annular space seal ☐; Other ☐ _____
5. Annular space seal: Granular Bentonite ☒ 3; _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 3; _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 3; _____ % Bentonite .... Bentonite-cement grout ☐ 5; _____ Ft^3 volume added for any of the above
How installed: Tremie ☐ 1; Tremie pumped ☐ 2; Gravity ☒ 0
6. Bentonite seal: Bentonite granules ☒ 3; ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 3; Other ☐ _____
7. Fine sand material: Manufacturer, product name and mesh size: Fine Silica Sand
Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size: .85-.95 Coarse Silica Sand
Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 1; Flush threaded PVC schedule 80 ☐ 2; Other ☐ _____
10. Screen material: Sch. 40 PVC
Screen type: Factory cut ☒; Continuous slot ☐; Other ☐ _____
Manufacturer _____
Slot size: 0.010
Slotted length: 10.
11. Backfill material (below filter pack): None ☐; Other ☐ _____

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

Signature: Neil W. Rismeyer
Firm: Vijay Environmental Inc.

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. 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 $5,000 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.

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A - 5-89

Facility/Project Name: Zimmerman Field (USTs C-26, C-27)
Facility License, Permit or Monitoring Number:

Grid Location: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.

Well Name: MW-2
Wis. Unique Well Number: DNR Well Number:

Type of Well: Water Table Observation Well ☒ 11 Piezometer ☐ 12

Section Location: ____ 1/4 of NE 1/4 of Section 32, T 8 N, R 21 ☒ E ☐ W

Date Well Installed: m m / d d / y y

Distance Well Is From Waste/Source Boundary: 10 ft.

Well Installed By: (Person's Name and Firm)
Sauter Drilling / Vijay Environmental Inc
Neil Rismeyer

Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No

Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☐ Not Known

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation ____ ft. MSL
C. Land surface elevation ____ ft. MSL
D. Surface seal, bottom ____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis):

E. Bentonite seal, top ____ ft. MSL or ____ ft.
F. Fine sand, top ____ ft. MSL or 2.0 ft.
G. Filter pack, top ____ ft. MSL or 8.0 ft.
H. Well screen, top ____ ft. MSL or 10.2 ft.
I. Well screen, bottom ____ ft. MSL or 20.2 ft.
J. Filter pack, bottom ____ ft. MSL or ____ ft.
K. Borehole, bottom ____ ft. MSL or 20.5 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.25 in.
N. I.D. well casing 2.0 in.

1. Cap and lock? ☐ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9. in
b. Length: 12. ft
c. Material: Steel ☒ 0; Flush Mount; Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: ____
3. Surface seal: Bentonite ☒ 3; Concrete ☐ 0; Granular; Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 3; Annular space seal ☐; Other ☐
5. Annular space seal: Granular Bentonite ☒ 3; ____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 3; ____ Lbs/gal mud weight ..... Bentonite slurry ☐ 3; ____ % Bentonite .... Bentonite-cement grout ☐ 5; ____ Ft³ volume added for any of the above
How installed: Tremie ☐; Tremie pumped ☐ 0; Gravity ☒ 0
6. Bentonite seal: Bentonite granules ☒ 3; ☐1/4 in. ☐3/8 in. ☐1/2 in. Bentonite pellets ☐ 3; Other ☐
7. Fine sand material: Manufacturer, product name and mesh si...
Fine Silica Sand
Volume added ____ ft³
8. Filter pack material: Manufacturer, product name and mesh
.85-.95 Coarse Silica Sand
Volume added ____ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒; Flush threaded PVC schedule 80 ☐; Other ☐
10. Screen material: Sch. 40 PVC
Screen type: Factory cut ☒; Continuous slot ☐; Other ☐
Manufacturer ____
Slot size: 0.010
Slotted length: 10.
11. Backfill material (below filter pack): None ☐; Other ☐

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

Signature: Neil W Rismeyer
Firm: Vijay Environmental Inc

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. 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 $5,000 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.

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A - 8-89

Facility/Project Name: Timmerman Field (USTs C26, C27)	Grid Location: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-3
Facility License, Permit or Monitoring Number: _____		Wis. Unique Well Number: _____ DNR Well Number: _____
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location: ____ 1/4 of NE 1/4 of Section 32, T 8 N, R 21 ☒ E ☐ W	Date Well Installed: 05/14/92
Distance Well Is From Waste/Source Boundary: 15 ft.	Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ☐ Not Known	Well Installed By: (Person's Name and Firm) Sauter Drilling / Vijay Environmental Inc. — Neil Rismeyer
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No		

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or _____ ft.
F. Fine sand, top _____ ft. MSL or 7 ft.
G. Filter pack, top _____ ft. MSL or 8 ft.
H. Well screen, top _____ ft. MSL or 10.3 ft.
I. Well screen, bottom _____ ft. MSL or 20.3 ft.
J. Filter pack, bottom _____ ft. MSL or _____ ft.
K. Borehole, bottom _____ ft. MSL or 20.3 ft.
L. Borehole, diameter 8 in.
M. O.D. well casing 2.25 in.
N. I.D. well casing 2.0 in.

1. Cap and lock? ☐ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9 in.
b. Length: 12 ft.
c. Material: Steel ☒ 0; Flush Mount; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 3; Concrete ☐ 0; Granular; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☐ 3; Annular space seal ☐; Other ☐ _____
5. Annular space seal: Granular Bentonite ☒ 3; _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 3; _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 3; _____ % Bentonite .... Bentonite-cement grout ☐ 5; _____ Ft³ volume added for any of the above
How installed: Tremie ☐ 0; Tremie pumped ☐ 0; Gravity ☒ 0
6. Bentonite seal: Bentonite granules ☒ 3; ☐ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 3; Other ☐ _____
7. Fine sand material: Manufacturer, product name and mesh size: Fine Silica Sand
Volume added _____ ft³
8. Filter pack material: Manufacturer, product name and mesh size: .85 - .95 Coarse Silica Sand
Volume added _____ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 1; Flush threaded PVC schedule 80 ☐ 1; Other ☐ _____
10. Screen material: Sch. 40 PVC
Screen type: Factory cut ☒; Continuous slot ☐; Other ☐ _____
Manufacturer _____
Slot size: 0.010
Slotted length: 10.
11. Backfill material (below filter pack): None ☐; Other ☐ _____

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

Signature: Neil W. Rismeyer — Firm: Vijay Environmental Inc.

Please complete and return both sides of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. 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 $5,000 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.

APPENDIX E
WATER LEVEL DATA,
WELL DEVELOPMENT / PURGE SUMMARIES,
AND
FIELD WATER QUALITY SAMPLING AND ANALYSIS

DATE: 5-20-92

WATER LEVEL DATA

PROJECT: Milwaukee County UST

PROJECT #: 255115363

LOCATION: Timmerman Field

Stickups
MW-1 . -0.40 ft
MW-2 -0.50 ft
MW-3 -0.33 ft

WELL:	TIME (MILITARY)	MEASURING INSTRUMENT	FIELD MEASUREMENT & SURVEY DATA			MEASURED BY	COMMENTS
			TOP OF PVC CASING ELEV. (ft. msl)	MEASURED DEPTH BELOW TOP PVC CASING (ft.)	WATER ELEVATION (ft. msl)		
MW-1	1624	Solinst Model 101		18.62		DBH	TD=19.88 FT TOR
MW-2	1637	"		6.79		DBH	TD=19.87 FT TOR
MW-3	1643	"		8.45		DBH	TD=19.95 FT TOR

SIMON HYDRO-SEARCH

WELL DEVELOPMENT/PURGE SUMMARY

Well MW-1

PROJECT: Milwaukee County UST
PROJECT #: 255115363
LOCATION: Timmerman Field
PERSONNEL: David Holmes

WELL COORDINATES:
PVC RISER ELEVATION:
GROUND LEVEL ELEVATION:
CONSTRUCTED WELL DEPTH:
WELL CASING INSIDE DIAMETER:

INSTRUMENTS
TEMPERATURE: Cole Parmer Model 05669-00 #4
CONDUCTIVITY: YSI Model 33 S-C-T meter #3
pH METER: Cole Parmer Model 05669-00 #4
WATER LEVEL PROBE: Solinst Model 101 #4
OTHER:

Date	Time	Method	Water Level* (ft ~~msl~~ TOC)	Measured Well Depth* (ft ~~msl~~ TOC)	Volume Purged** (gallons)	Appearance: Color / Odor / Clarity	pH (s.u.)	T (C)	Elec. Cond. (umhos/cm): Measured	Elec. Cond. (umhos/cm): at 25C	Comments
5/20/92	1624	—	18.62	19.88	0	—	—	—	—	—	Initial water level
"	1929	PVC Bailer	—	—	0	—	—	—	—	—	Start bailing
"	1934	"	—	—	1	Hyellowish brown / strong sulfur odor / turbid	8.34	12.2	477		Stop bailing - dry

* Record both initial and final measurements when using as Well Development Summary.
** Purge four borehole volumes, if possible, prior to sampling.

SIMON HYDRO-SEARCH

WELL DEVELOPMENT/PURGE SUMMARY

Well MW-7

PROJECT: Milwaukee County UST
PROJECT #: 255115363
LOCATION: Timmerman Field
PERSONNEL: David Holmes

WELL COORDINATES:
PVC RISER ELEVATION:
GROUND LEVEL ELEVATION:
CONSTRUCTED WELL DEPTH:
WELL CASING INSIDE DIAMETER:

INSTRUMENTS
TEMPERATURE: Cole Parmer Model 05669-00 #4
CONDUCTIVITY: YSI Model 33 S-C-T meter #3
pH METER: Cole Parmer Model 05669-00 #4
WATER LEVEL PROBE: Solinst Model 101 #4
OTHER:

Date	Time	Method	Water Level* (ft. ~~mst~~ TOC)	Measured Well Depth* (ft. ~~mbl~~ BG)	Volume Purged** (gallons)	Appearance Color / Odor / Clarity	pH (s.u.)	T (C)	Elec. Cond. (umhos/cm) Measured	Elec. Cond. (umhos/cm) at 25C	Comments
5/20/92	1637	—	6.79	19.87	0	—	—	—	—	—	Initial water level
"	1845	PVC bailer	—	—	0	—	—	—	—	—	Start bailing
"	1858	"	—	—	5	lt. yellowish brown / none / turbid	8.36	R.1	605		
"	1914	"	—	—	10	" " "	9.20	11.3	650		Stop bailing - dry

* Record both initial and final measurements when using as Well Development Summary.
** Purge four borehole volumes, if possible, prior to sampling.

SIMON HYDRO-SEARCH

WELL DEVELOPMENT/PURGE SUMMARY

Well MW-3

PROJECT: Milwaukee County UST
PROJECT #: 255115.363
LOCATION: Timmerman Field
PERSONNEL: David Holmes

WELL COORDINATES:
PVC RISER ELEVATION:
GROUND LEVEL ELEVATION:
CONSTRUCTED WELL DEPTH:
WELL CASING INSIDE DIAMETER:

INSTRUMENTS
TEMPERATURE: Cole Parmer Model 05669-00 #4
CONDUCTIVITY: YSI Model 33 S-C-T meter #3
pH METER: Cole Parmer Model 05669-00 #4
WATER LEVEL PROBE: Solinst Model 101 #4
OTHER:

Date	Time	Method	Water Level* (ft. msl) TOR	Measured Well Depth* (ft. msl) TOR	Volume Purged** (gallons)	Appearance Color / Odor / Clarity	pH (s.u.)	T (C)	Elec. Cond. (umhos/cm) Measured	Elec. Cond. (umhos/cm) at 25C	Comments
5/20/92	1643	—	8.45	19.95	0	—					
"	1750	PVC bailer	—	—	0	—	—	—	—	—	Start bailing
"	1810	"	—	—	5	lt yellowish brown / none / turbid	8.92	12.7	880		
"	1823	"	—	—	10	" " "	8.82	12.3	750		stop bailing - dry

* Record both initial and final measurements when using as Well Development Summary.
** Purge four borehole volumes, if possible, prior to sampling.

SIMON HYDRO-SEARCH

DATE: 5-22-92

WATER LEVEL DATA

PROJECT: Milwaukee County UST

PROJECT #: 255115303

LOCATION: Timmerman Field

WELL:	TIME (MILITARY)	MEASURING INSTRUMENT	FIELD MEASUREMENT & SURVEY DATA			MEASURED BY	COMMENTS
			TOP OF PVC CASING ELEV. (ft. msl)	MEASURED DEPTH BELOW TOP PVC CASING (ft.)	WATER ELEVATION (ft. msl)		
MW-1	10:11	Solinst Model 101		18.37		DBH	
MW-2	10:20	"		11.77		"	
MW-3	10:26	"		12.94		"	

SIMON HYDRO-SEARCH

DATE: 6-9-92

WATER LEVEL DATA

PROJECT: MILWAUKEE COUNTY UST

PROJECT #: 255115363

LOCATION: TIMMERMAN FIELD

WELL:	TIME (MILITARY)	MEASURING INSTRUMENT	FIELD MEASUREMENT & SURVEY DATA			MEASURED BY	COMMENTS
			TOP OF PVC CASING ELEV. (ft. msl)	MEASURED DEPTH BELOW TOP PVC CASING (ft.)	WATER ELEVATION (ft. msl)		
MW-3	10:00	SOLINST WLP #1		6.28		TMT	BEFORE
MW-2	10:03			2.84		TMT	BAILING
MW-1	11:10			9.76		TMT	
			ALL 3	BAILED	DRY		
MW-3	14:25			17.80		TMT	
MW-2	14:30			18.00		TMT	
MW-1	14:35			18.54		TMT	

SIMON HYDRO-SEARCH

FIELD WATER QUALITY SAMPLING AND ANALYSIS

PROJECT: Timmerman Field
PROJECT #:
LOCATION:
PERSONNEL:

INSTRUMENTS
TEMPERATURE: Cole Parmer #
CONDUCTIVITY: YSI #1
pH: Cole Parmer #
OTHER: Solinst # 6

GENERAL: SAMPLE POINT		MW 1	MW-2	MW-3		
WATER TYPE		GW	GW	GW		
DATE		6/11/92	6/11/92	6/11/92		
CLOCK TIME		12:48	13:20	13:44		
WATER ELEVATION		17.20	14.62	13:84		
MEASURED WELL DEPTH						
PURGE VOL/CASING VOL(g)						
DEPTH SAMPLE TAKEN						
SAMPLING DEVICE		Bailer	Bailer	Bailer		
FIELD TEMPERATURE (C)		14.3	13.2	14.1		
ELEC. COND. (umhos/cm)	MEASURED	950	950	1050		
	AT 25 C					
pH		7.04	7.39	7.51		
ALKALINITY						
COLOR		Clear	Clear	Clear		
ODOR		none	none	none		
CLARITY		Clear	Clear	Clear		
SAMPLING PARAMETERS		# OF CONTAINERS & CONT. VOLUME; CONTAINER TYPE (A=AMBER GLASS; G=GLASS; P=PLASTIC); PRESERVATIVE TYPE - (L=LAB ADDED; F=FIELD ADDED) OR NEUTRAL; FILTERED (YES OR NO)				
			Lots of	Lots O		
			Pressure	pressure		
LABORATORY: SENT TO: DATE SENT:		PAL	PAL	PAL		
SAMPLED BY:		JFK	JFK	JFK		

APPENDIX F
SOIL SAMPLE
LABORATORY RESULTS
AND
CHAIN OF CUSTODY

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

Phone: (414) 272-5222

Vijay Environmental Inc.
614 West Brown Deer Road
Milwaukee, WI 53217

Attn: Manu Thacker
Invoice Number:

Order #: 92-05-170
Date: 06/03/92 11:01
Work ID: Timmerman Field
Date Received: 05/15/92
Date Completed: 06/03/92
Client Code: VIJAY_ENVIRO

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	MW1-7 (13-15')
02	MW2-6 (11-13')
03	MW3-6 (11-13')
04	Trip Blank

Laboratory ID Number (Wisconsin DNR): 241369260

Certified By
Jeff Bushner, Linda Woodie

Project # 25511536.3
CC: DLM

Sample: 01A MW1-7 (13-15') **Collected: 05/14/92**

Test Description		Result	Limit	Units	Analyzed	By
Mod. DRO (WDNR)		< 10		mg/kg	05/19/92	SEA
Mod. GRO (WDNR)		< 5.0		mg/kg	05/22/92	SEL
PVOC Soil, Method 8020						
Benzene	#	< 50		ug/kg	05/27/92	LJS
Ethylbenzene		< 50		ug/kg	05/27/92	LJS
Methyl-t-butylether		< 50		ug/kg	05/27/92	LJS
Toluene		< 50		ug/kg	05/27/92	LJS
1,2,4-Trimethylbenzene		< 50		ug/kg	05/27/92	LJS
1,3,5-Trimethylbenzene		< 50		ug/kg	05/27/92	LJS
Total Xylenes		< 50		ug/kg	05/27/92	LJS
Total Lead		3.8		ppm	05/21/92	LJW

Sample: 02A MW2-6 (11-13') **Collected: 05/14/92**

Test Description		Result	Limit	Units	Analyzed	By
Mod. DRO (WDNR)		< 10		mg/kg	05/30/92	SEA
Mod. GRO (WDNR)		< 5.0		mg/kg	05/22/92	SEL
PVOC Soil, Method 8020						
Benzene	#	< 50		ug/kg	05/27/92	LJS
Ethylbenzene		< 50		ug/kg	05/27/92	LJS
Methyl-t-butylether		< 50		ug/kg	05/27/92	LJS
Toluene		< 50		ug/kg	05/27/92	LJS
1,2,4-Trimethylbenzene		< 50		ug/kg	05/27/92	LJS
1,3,5-Trimethylbenzene		< 50		ug/kg	05/27/92	LJS
Total Xylenes		< 50		ug/kg	05/27/92	LJS
Total Lead		1.9		ppm	05/21/92	LJW

Sample: 03A MW3-6 (11-13') **Collected: 05/14/92**

Test Description		Result	Limit	Units	Analyzed	By
Mod. DRO (WDNR)		< 10		mg/kg	05/30/92	SEA
Mod. GRO (WDNR)		< 5.0		mg/kg	05/22/92	SEL
PVOC Soil, Method 8020						
Benzene	#	< 50		ug/kg	05/27/92	LJS
Ethylbenzene		< 50		ug/kg	05/27/92	LJS
Methyl-t-butylether		< 50		ug/kg	05/27/92	LJS
Toluene		< 50		ug/kg	05/27/92	LJS
1,2,4-Trimethylbenzene		< 50		ug/kg	05/27/92	LJS
1,3,5-Trimethylbenzene		< 50		ug/kg	05/27/92	LJS
Total Xylenes		< 50		ug/kg	05/27/92	LJS
Total Lead		1.6		ppm	05/21/92	LJW

Sample: 04A Trip Blank **Collected: 05/14/92**

Test Description	Result	Limit	Units	Analyzed	By
Mod. GRO (WDNR)	< 5.0		mg/kg	05/21/92	SEL

The samples ordered for DRO were analyzed by the Wisconsin DNR Modified DRO method.

The samples ordered for GRO were analyzed by the Wisconsin DNR Modified GRO method.

Elevated detection limit due to compliance with the Wisconsin DNR modified PVOC method.

The samples ordered for PVOC were analyzed according to Method 8020 (SW 846 Test Methods for Evaluating Solid Waste - Physical/ Chemical Methods)

All analysis as per approved methods found in one or more of the following:
Standard Methods for the Evaluation of Water and Wastewater, 16th 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 Labs

PAL

CLIENT INFORMATION

Name: [illegible]
Company: [illegible]
Address: 175 N. Corporate Dr. Suite 100 (6414 W. Brown Deer Rd) Brookfield WI (Milwaukee, WI)
Phone: 792-1282 (352-9491
P.O.# / Project#: Timmerman Field
Quote/Reference#:

Note: Terms and conditions printed on back apply.

Precision Analytical Laboratory, Inc.
205 W. Galena
Milwaukee, WI 53212

Phone: (414) 272-5222
Fax: (414) 272-6949

Turnaround Time
- ☐ Normal
- ☐ Rush

Date Needed
(Preapproval by Lab)

Sample Type
(Check all that apply)
- ☐ Groundwater
- ☐ Wastewater
- ☑ Soil
- ☐ Solid Waste
- ☐ Oil
- ☐ Other

Sample Handling
- ☐ Nonhazardous
- ☐ Flammable
- ☐ Skin Irritant
- ☐ Highly Toxic
- ☐ Other *(specify)* [illegible]
- ☒ Refrigerate
- ☐ Work in Hood
- ☐ Wear Gloves

ANALYTICAL REQUESTS
(use seperate sheet if necessary)

LAB USE ONLY	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	Dry Weight	PVOC Pb		GRO	DRO			SWAB PREMICATION	REMARKS
1205170-1	5/14/92	10:[illegible]		x9	MW1-7 (13-15')	x	x		x	x				
-2	5/14/92	12:[illegible]		8	MW2-6 (11-13)	x	x		x	x				
-3	5/14/92	3:15	.	8	MW3-6 (11-13)	x	x		x	x				
-4					TRIP BLANK				X					

Del'v: Hand Comm.
Ship. Cont. OK? Y N N/A
Rec'd Refrig.? Y N N/A
Seals OK? Y N N/A
Samples leaking? Y N N/A
Comments:

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)*	DATE/TIME
[illegible signature]	5/14/92

RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*	RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*
(M) [illegible signature]	5/15 / 1:40 PM	[illegible signature]			

RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*	RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED FOR LABORATORY BY: *(Signature)*	DATE/TIME

APPENDIX G
GROUND WATER
LABORATORY RESULTS
AND
CHAIN OF CUSTODY

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

Phone: (414) 272-5222

Simon Hydro-Search
175 North Corporate Drive
Brookfield, WI 53045

Attn: Dan Morgan
Invoice Number: 4480

Order #: 92-06-157
Date: 07/07/92 14:16
Work ID: 255115363
Date Received: 06/12/92
Date Completed: 07/07/92
Client Code: SIMON_HYDRO

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01		05	
02		06	MW-1
03		07	MW-2
04		08	MW-3

Laboratory ID Number (Wisconsin DNR): 241369260

Certified By
Jeff Bushner,Linda Woodie

Sample: 06A MW-1 Collected: 06/11/92

Test Description	Result	Limit	Units	Analyzed	By
8021 Water					
Benzene	< 1.0		ug/l	06/22/92	LJS
Bromobenzene	< 1.0		ug/l	06/22/92	LJS
Bromochloromethane	< 1.0		ug/l	06/22/92	LJS
Bromodichloromethane	< 1.0		ug/l	06/22/92	LJS
Bromoform	< 3.0		ug/l	06/22/92	LJS
Bromomethane	< 1.0		ug/l	06/22/92	LJS
n-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
sec-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
tert-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
Carbon tetrachloride	< 1.0		ug/l	06/22/92	LJS
Chlorobenzene	< 1.0		ug/l	06/22/92	LJS
Chloroethane	< 2.0		ug/l	06/22/92	LJS
Chloroform	< 1.0		ug/l	06/22/92	LJS
Chloromethane	< 1.0		ug/l	06/22/92	LJS
2-Chlorotoluene	< 1.0		ug/l	06/22/92	LJS
4-Chlorotoluene	< 1.0		ug/l	06/22/92	LJS
1,2-Dibromo-3-chloropropane	< 5.0		ug/l	06/22/92	LJS
Dibromochloromethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dibromoethane	< 1.0		ug/l	06/22/92	LJS
Dibromomethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,3-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,4-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS

Test Description	Result	Limit	Units	Analyzed	By
Dichlorodifluoromethane	< 2.0		ug/l	06/22/92	LJS
1,1-Dichloroethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dichloroethane	< 1.0		ug/l	06/22/92	LJS
1,1-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
cis-1,2-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
trans-1,2-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
1,2-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
1,3-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
2,2-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
1,1-Dichloropropene	< 1.0		ug/l	06/22/92	LJS
Ethylbenzene	< 1.0		ug/l	06/22/92	LJS
Hexachlorobutadiene	< 1.0		ug/l	06/22/92	LJS
Isopropylbenzene	< 1.0		ug/l	06/22/92	LJS
p-Isopropyltoluene	< 1.0		ug/l	06/22/92	LJS
Methylene Chloride	< 1.0		ug/l	06/22/92	LJS
M-t-butyl-ether	< 1.0		ug/l	06/22/92	LJS
Naphthalene	< 1.0		ug/l	06/22/92	LJS
n-Propylbenzene	< 1.0		ug/l	06/22/92	LJS
Styrene	< 1.0		ug/l	06/22/92	LJS
1,1,1,2-Tetrachloroethane	< 1.0		ug/l	06/22/92	LJS
1,1,2,2-Tetrachloroethane	< 1.0		ug/l	06/22/92	LJS
Tetrachloroethene	< 1.0		ug/l	06/22/92	LJS
Toluene	< 1.0		ug/l	06/22/92	LJS
1,2,3-Trichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,2,4-Trichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,1,1-Trichloroethane	< 1.0		ug/l	06/22/92	LJS
1,1,2-Trichloroethane	< 1.0		ug/l	06/22/92	LJS
Trichloroethene	< 1.0		ug/l	06/22/92	LJS
Trichlorofluoromethane	< 1.0		ug/l	06/22/92	LJS
1,2,3-Trichloropropane	< 1.0		ug/l	06/22/92	LJS
1,2,4-Trimethylbenzene	< 1.0		ug/l	06/22/92	LJS
1,3,5-Trimethylbenzene	< 1.0		ug/l	06/22/92	LJS
Vinyl Chloride	< 2.0		ug/l	06/22/92	LJS
o-Xylene	< 1.0		ug/l	06/22/92	LJS
m/p-Xylene	< 1.0		ug/l	06/22/92	LJS
Lead in Water	< 0.03		mg/l	06/16/92	LJW
Mod. DRO (WDNR)	< 0.10		mg/l	06/23/92	SEL
Mod. GRO (WDNR)	< 0.10		mg/l	06/17/92	SEL

Sample: 07A MW-2 **Collected: 06/11/92**

Test Description	Result	Limit	Units	Analyzed	By
8021 Water					
Benzene	< 1.0		ug/l	06/22/92	LJS
Bromobenzene	< 1.0		ug/l	06/22/92	LJS
Bromochloromethane	< 1.0		ug/l	06/22/92	LJS
Bromodichloromethane	< 1.0		ug/l	06/22/92	LJS
Bromoform	< 3.0		ug/l	06/22/92	LJS
Bromomethane	< 1.0		ug/l	06/22/92	LJS
n-Butylbenzene	< 1.0		ug/l	06/22/92	LJS

Test Description	Result	Limit	Units	Analyzed	By
sec-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
tert-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
Carbon tetrachloride	< 1.0		ug/l	06/22/92	LJS
Chlorobenzene	< 1.0		ug/l	06/22/92	LJS
Chloroethane	< 2.0		ug/l	06/22/92	LJS
Chloroform	< 1.0		ug/l	06/22/92	LJS
Chloromethane	< 1.0		ug/l	06/22/92	LJS
2-Chlorotoluene	< 1.0		ug/l	06/22/92	LJS
4-Chlorotoluene	< 1.0		ug/l	06/22/92	LJS
1,2-Dibromo-3-chloropropane	< 5.0		ug/l	06/22/92	LJS
Dibromochloromethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dibromoethane	< 1.0		ug/l	06/22/92	LJS
Dibromomethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,3-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,4-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
Dichlorodifluoromethane	< 2.0		ug/l	06/22/92	LJS
1,1-Dichloroethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dichloroethane	< 1.0		ug/l	06/22/92	LJS
1,1-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
cis-1,2-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
trans-1,2-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
1,2-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
1,3-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
2,2-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
1,1-Dichloropropene	< 1.0		ug/l	06/22/92	LJS
Ethylbenzene	< 1.0		ug/l	06/22/92	LJS
Hexachlorobutadiene	< 1.0		ug/l	06/22/92	LJS
Isopropylbenzene	< 1.0		ug/l	06/22/92	LJS
p-Isopropyltoluene	< 1.0		ug/l	06/22/92	LJS
Methylene Chloride	< 1.0		ug/l	06/22/92	LJS
M-t-butyl-ether	< 1.0		ug/l	06/22/92	LJS
Naphthalene	< 1.0		ug/l	06/22/92	LJS
n-Propylbenzene	< 1.0		ug/l	06/22/92	LJS
Styrene	< 1.0		ug/l	06/22/92	LJS
1,1,1,2-Tetrachloroethane	< 1.0		ug/l	06/22/92	LJS
1,1,2,2-Tetrachloroethane	< 1.0		ug/l	06/22/92	LJS
Tetrachloroethene	< 1.0		ug/l	06/22/92	LJS
Toluene	< 1.0		ug/l	06/22/92	LJS
1,2,3-Trichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,2,4-Trichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,1,1-Trichloroethane	< 1.0		ug/l	06/22/92	LJS
1,1,2-Trichloroethane	< 1.0		ug/l	06/22/92	LJS
Trichloroethene	< 1.0		ug/l	06/22/92	LJS
Trichlorofluoromethane	< 1.0		ug/l	06/22/92	LJS
1,2,3-Trichloropropane	< 1.0		ug/l	06/22/92	LJS
1,2,4-Trimethylbenzene	< 1.0		ug/l	06/22/92	LJS
1,3,5-Trimethylbenzene	< 1.0		ug/l	06/22/92	LJS
Vinyl Chloride	< 2.0		ug/l	06/22/92	LJS
o-Xylene	< 1.0		ug/l	06/22/92	LJS

Test Description	Result	Limit	Units	Analyzed	By
m/p-Xylene	< 1.0		ug/l	06/22/92	LJS
Lead in Water	< 0.75		mg/l	06/15/92	LJW
Mod. DRO (WDNR)	< 0.10		mg/l	06/23/92	SEL
Mod. GRO (WDNR)	< 0.10		mg/l	06/17/92	SEL

Sample: 08A MW-3 **Collected: 06/11/92**

Test Description	Result	Limit	Units	Analyzed	By
8021 Water					
Benzene	< 1.0		ug/l	06/22/92	LJS
Bromobenzene	< 1.0		ug/l	06/22/92	LJS
Bromochloromethane	< 1.0		ug/l	06/22/92	LJS
Bromodichloromethane	< 1.0		ug/l	06/22/92	LJS
Bromoform	< 3.0		ug/l	06/22/92	LJS
Bromomethane	< 1.0		ug/l	06/22/92	LJS
n-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
sec-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
tert-Butylbenzene	< 1.0		ug/l	06/22/92	LJS
Carbon tetrachloride	< 1.0		ug/l	06/22/92	LJS
Chlorobenzene	< 1.0		ug/l	06/22/92	LJS
Chloroethane	< 2.0		ug/l	06/22/92	LJS
Chloroform	< 1.0		ug/l	06/22/92	LJS
Chloromethane	< 1.0		ug/l	06/22/92	LJS
2-Chlorotoluene	< 1.0		ug/l	06/22/92	LJS
4-Chlorotoluene	< 1.0		ug/l	06/22/92	LJS
1,2-Dibromo-3-chloropropane	< 5.0		ug/l	06/22/92	LJS
Dibromochloromethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dibromoethane	< 1.0		ug/l	06/22/92	LJS
Dibromomethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,3-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
1,4-Dichlorobenzene	< 1.0		ug/l	06/22/92	LJS
Dichlorodifluoromethane	< 2.0		ug/l	06/22/92	LJS
1,1-Dichloroethane	< 1.0		ug/l	06/22/92	LJS
1,2-Dichloroethane	< 1.0		ug/l	06/22/92	LJS
1,1-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
cis-1,2-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
trans-1,2-Dichloroethene	< 1.0		ug/l	06/22/92	LJS
1,2-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
1,3-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
2,2-Dichloropropane	< 1.0		ug/l	06/22/92	LJS
1,1-Dichloropropene	< 1.0		ug/l	06/22/92	LJS
Ethylbenzene	< 1.0		ug/l	06/22/92	LJS
Hexachlorobutadiene	< 1.0		ug/l	06/22/92	LJS
Isopropylbenzene	< 1.0		ug/l	06/22/92	LJS
p-Isopropyltoluene	< 1.0		ug/l	06/22/92	LJS
Methylene Chloride	< 1.0		ug/l	06/22/92	LJS
M-t-butyl-ether	< 1.0		ug/l	06/22/92	LJS
Naphthalene	< 1.0		ug/l	06/22/92	LJS
n-Propylbenzene	< 1.0		ug/l	06/22/92	LJS

The organic data is reported out on a dry-weight basis.

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

The samples ordered for 8021 were analyzed according to Method 8021 (SW 846 Test Methods for Evaluating Solid Waste - Physical/ Chemical Methods)

The samples ordered for DRO were analyzed by the Wisconsin DNR Modified DRO method.

The samples ordered for GRO were analyzed by the Wisconsin DNR Modified GRO method.

Elevated detection limit due to compliance with the Wisconsin DNR modified PVOC method.

The samples ordered for PVOC were analyzed according to Method 8020 (SW 846 Test Methods for Evaluating Solid Waste - Physical/ Chemical Methods)

All analysis as per approved methods found in one or more of the following:
Standard Methods for the Evaluation of Water and Wastewater, 16th 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 Labs

Send report Att: Dan Morgan

[illegible] 850

PAL

Precision Analytical Laboratory, Inc.
205 W. Galena
Milwaukee, WI 53212

Phone: (414) 272-5222
Fax: (414) 272-6949

CLIENT INFORMATION

Name: John Kattan
Company: Simon Hydro-Search
Address: 175 N Corporate Dr [illegible]
[illegible], WI [illegible]
Phone: 792 1282
P.O.# / Project#: 2551153 63
Quote/Reference#:

Note: Terms and conditions printed on back apply.

Turnaround Time
- ☒ Normal
- ☐ Rush

Date Needed
(Preapproval by Lab)

Sample Type
(Check all that apply)
- ☒ Groundwater
- ☐ Wastewater
- ☒ Soil
- ☐ Solid Waste
- ☐ Oil
- ☐ Other

Sample Handling
- ☒ Nonhazardous
- ☐ Flammable
- ☐ Skin Irritant
- ☐ Highly Toxic
- ☐ Other *(specify)*
- ☒ Refrigerate
- ☐ Work in Hood
- ☐ Wear Gloves

ANALYTICAL REQUESTS
(use seperate sheet if necessary)

LAB USE ONLY	DATE	TIME	No. of Containers COMP	No. of Containers GRAB	SAMPLE ID	DRO	GRO	PVOC 8020	Lead	VOC	Dry weight		S.W.A.B. PREMICATION	REMARKS
	6/10	0945	4	4	MW-1D 5-7'		X	X	X		X			Soil
	6/10	1134	3	3	MW-4D 5'-7'		X	X	X		X			Soil
	6/10	1353	3	3	MW-5A 9'-11'		X	X	X		X			Soil
	6/10	1547	3	3	MW-6A 7'-9'		X	X	X		X			Soil
	6/11	0739	3	3	MW-7A 7'-9'		X	X	X		X			Soil
	~~12:48~~	6/11 12:48	6	6	MW-1	X	X		X	X				Water
	~~13:20~~	6/11 13:20	5	5	MW-2	X	X		X	X				Water
	~~13:44~~	6/11 13:44	5	5	MW-3	X	X		X	X				Water

Del'v: Hand Comm.
Ship. Cont. OK? Y N N/A
Rec'd Refrig.? Y N N/A
Seals OK? Y N N/A
Samples leaking? Y N N/A
Comments:

CHAIN OF CUSTODY RECORD

SAMPLERS: *(Signature)*	DATE/TIME
[signature]	6/12 0725

RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*
[signature]	6-12-[illegible] 425	[signature]
RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*

RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED BY: *(Signature)*
RELINQUISHED BY: *(Signature)*	DATE/TIME	RECEIVED FOR LABORATORY BY: *(Signature)* / DATE/TIME

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

Box 12436
Milwaukee, Wisconsin 53212
Fax: (414) 562-1258

February 25, 1991

File Ref: 4440

Mr. Robert Knighten, Civil Engineer
Milwaukee County Department of Public Works
Courthouse Annex, Room 314
907 North 10th Street
Milwaukee, WI 53233

Dear Mr. Knighten:

RE: Milwaukee Co - Timmerman Field, 9305 W Appleton Av, Milwaukee, WI

The Wisconsin Department of Natural Resources (WDNR) has been notified that petroleum contamination was discovered November 14, 1990 at the above referenced location. Charles Krohn, the Leaking Underground Storage Tank (LUST) Project Manager for your area, may be reached at the above address or at (414) 263-8666. 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 WDNR 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.

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

Sharon Graham
Program Assistant,Environmental Repair Section

Enclosures: Remedial Investigation Checklist
Application to Treat or Dispose of Petroleum Contaminated Soil

c: Brian Hahn, Foth and Van Dyke
SED Case File

Engineers
Architects
Planners
Scientists

Foth & Van Dyke

Two Park Plaza, Suite 950
10850 West Park Place
Milwaukee, WI 53224-3619
414/359-2500
FAX: 414/359-2519

January 3, 1991

Mr. Robert L. Knighten, Civil Engineer 90M17
Milwaukee County
Department of Public Works
Engineering, Environmental & Energy Services
Courthouse Annex, Room #314
907 North 10th Street
Milwaukee, Wisconsin 53233

Dear Mr. Knighten:

RE: Timmerman Field Diesel Fuel Tank Removal and Gasoline Tank (Nos. C-26 and C-27) Compliance Upgrade

Presented herein are the results of a tank closure assessment of two clustered underground gasoline tanks located at Timmerman Field at 9305 West Appleton Avenue, Milwaukee, Wisconsin. The purpose of this assessment was to evaluate whether soil and/or groundwater contamination was evident within the the underground storage tank (UST) excavation. The methods and results of our assessment are included in the following report:

BACKGROUND INFORMATION

The two 8,000-gallon fiberglass USTs located at Timmerman Field have been in-place for approximately 16 years and were used to service unleaded gasoline- and diesel-powered vehicles owned by Milwaukee County.

REGIONAL AND LOCAL GEOLOGY AND HYDROGEOLOGY

The geology of Milwaukee County, Wisconsin is characterized by quaternary aged unconsolidated glacial deposits (i.e. clayey, silty tills, and sand and gravel outwash) ranging in thickness from 35 to 200 feet overlying a thick (>2,000 feet) sequence of Silurian, Ordovician, and Cambrian aged dolomite, shale, and sandstone. Precambrian granitic rocks underlie the sedimentary sequence. Subsurface conditions encountered at the site consisted of layered brown and black silty clays to a depth of 12 feet. Topographic and sedimentological evidence seem to indicate that soils in the local area were developed on glacial drift, derived from the calcareous bedrock, and include up to 4 feet of loess (wind blown glacial silts).

Groundwater was encountered at a depth of 12 feet. According to well logs from the immediate area, depth to groundwater is approximately 35 to 75 feet below the ground surface. The most likely explanation for the shallow depth to static water is the low lying topography of the area as Timmerman Airport is situated in a regionally low topographic setting.

TANK REMOVAL AND COMPLIANCE UPGRADE

Midwest Petroleum Service, Inc. was contracted by Milwaukee County to upgrade the two tanks, however due to the high groundwater table and the fact that the tanks were not anchored, the diesel tank (No. C-26) breached the surface and a decision was made to remove and replace the tank. The unleaded gasoline tank was not affected and was compliance upgraded. Excavation activities were conducted on November 14, 1990 and following removal, the tank and pump line were inspected. The tank and pump line were in excellent condition, with no visible staining or holes present. Ionizable organic compound readings were monitored in the field using a photoionization detector (PID). Petroleum vapors released from excavated soils were detected at concentrations of less 10 parts-per-million (ppm).

SOIL AND GROUNDWATER SAMPLING

Soil samples were taken from three locations, approximately 1 to 2 feet beneath Tank No. C-26 at a depth of 11 to 12 feet. (See Attachment 1 for sample location map). An additional compliance upgrade sample was taken approximately 11 feet below Tank No. C-27 with a sample shovel.

TABLE 1

Sample No.	Location	Depth (ft.)	Soil	TPH-GC (ppm)
MC-SS-C26-01SE	Southeast end	12	Brown silty clay	1.991
MC-SS-C26-02NW	Northwest end	12	Brown silty clay	2.612
MC-SS-C26-03NE	Northeast wall	11	Brown silty clay	0.148
MC-SS-C27-01NW	Northwest end	11	Brown silty clay	0.167

TABLE 2

Parameter	Sample No. MC-TF-GW parts-per-billion (ppb)	NR 140 Groundwater Enforcement Standards (ppb)
Benzene	56.7	5
Ethylbenzene	577.2	1,360
Toluene	2,784.3	343
Xylene (Total)	2,183.0	620

A stainless steel sample spoon was used to collect all four samples which were placed in 120-ml glass sample jars. A groundwater sample (No. MC-TF-GW) was collected in 40-ml glass vials. The jars and vials were filled completely with no headspace and placed on ice according to approved sampling techniques. The samples were thermally preserved during transportation and were sent with chain-of-custody and analysis request forms to a Wisconsin Department of Natural Resources (WDNR) approved laboratory. (See Attachment 2 for Chain-of-Custody and Analysis Request forms).

SAMPLE ANALYSIS

All of the samples were analyzed for total petroleum hydrocarbons by gas chromatography (TPH-GC). The groundwater sample was analyzed for benzene, ethylbenzene, toluene, and xylene (BETX). Laboratory results indicate that the four soil samples contained TPH levels of less than 3 ppm. BETX analysis of the groundwater sample revealed concentrations in excess of enforcement standards for benzene, toluene, and total xylene. (See Attachment 3 for laboratory results).

CONCLUSIONS AND RECOMMENDATIONS

The following summary is based on information gathered by Foth & Van Dyke personnel and represent interpretations of field and laboratory results:

- Staining was not evident on excavated soils.
- The excavated tank and pump line were in excellent condition, with no visible staining or holes.
- Ionizable organic compound field readings and laboratory results of all soil samples indicate that TPH levels were below the Wisconsin Department of Natural Resources (WDNR) 10 ppm action limit.

- Laboratory results of the groundwater sample indicate that benzene, toluene, and total xylene levels each exceed enforcement standards.

Based on the conclusions presented above, petroleum contamination of groundwater in excess of the WDNR enforcement standard is present. Therefore, Foth & Van Dyke recommends that a site characterization be performed to determine the extent of groundwater contamination. A scope of work plan for groundwater remediation will be prepared following analysis of data compiled during the site characterization. If you have any questions, please feel free to contact our office.

Sincerely,

FOTH & VAN DYKE

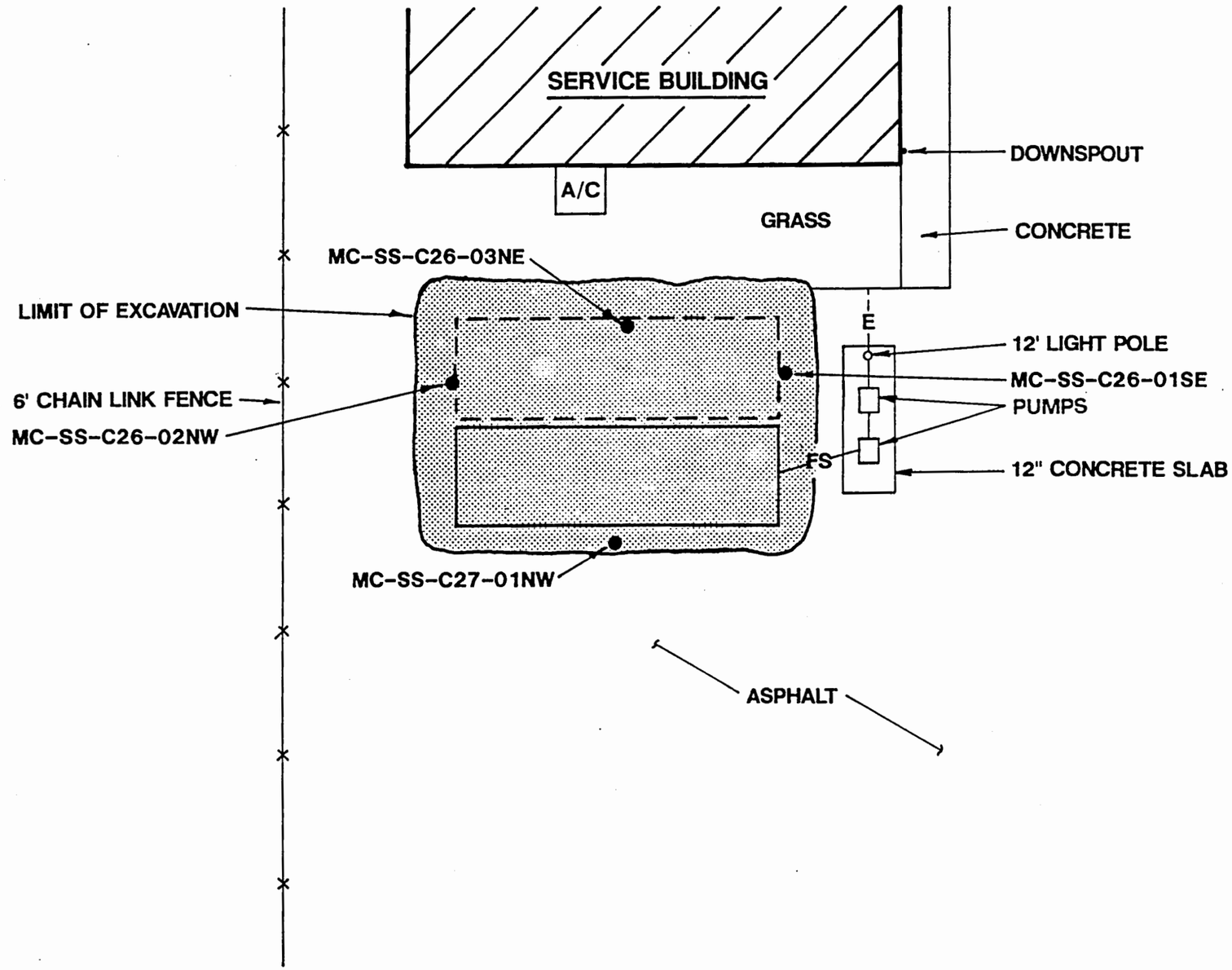
Brian A. Hahn
Project Geologist

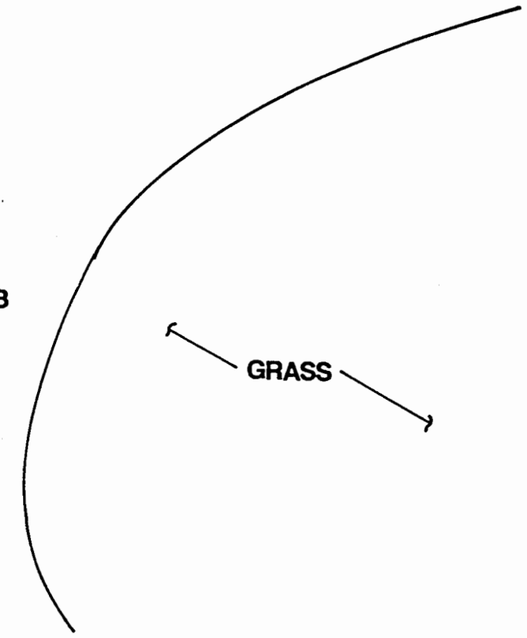
Bonnie J. Gundrum, CHMM
Section Manager

BAH:BJG:jaw

Enclosure

cc: Chip Krohn - WDNR/SED





NOTE: Underground piping and utilities shown are based on field surveys only. Contractor is responsible for verifying and protecting all underground utilities during excavation and construction.

TIMMERMAN AIRPORT

MILWAUKEE COUNTY	
9305 W. APPLETON AVE. MILWAUKEE	
SCALE: 1"=10'-0"	DATE: MARCH, 1990
PREPARED BY: FOTH & VAN DYKE	BY: B.J.Z.

ATTACHMENT 2

Chain-of-Custody and Analysis Request Forms

CHAIN OF CUSTODY RECORD

No.: 4228

Client: Milwaukee County
Project No.: 90m17
Sampling Site: Timmerman Field
Sampler: Brian Huhn

Bottle Size | Preservative	
40 ml	

Packed by: BAH Seal #:
Seal Intact Upon Receipt by Sampling Co: ☐ Yes ☐ No
Condition of Contents:
Sealed for Shipping by:
Initial Contents Temp: 4 °C Seal #:
Seal Intact Upon Receipt by Laboratory: ☐ Yes ☐ No

Date	Time	Sample I.D.:/Description	40 ml						Bottle Total	Sample Type	Lab Use Only	Remarks
11/14	1030	MC. TF. GW	X						2	GW		

Custody Transfers

	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
1.	Brian Huhn	11/15/90	8:15	W. Grant	11/15/90	8:15
2.						
3.						
4.						

Received for Laboratory:

Shipping Details

Method of Shipment: Personal Delivery
Condition of Contents:
Contents Temperature: 4 °C
ORTEK Project No.:

ORTEK
2496 W. Mason
Green Bay, Wisconsin 54303
Phone: 414/498-2222 Fax: 414/498-4067

ORTEK

2496 West Mason Street
P. O. Box 12435
Green Bay, WI 54307-2435
414/498-2222

Special Instructions or Comments:

ANALYSIS REQUEST FORM

Quotation #: _____

Purchase Order #: _____

Date Collected: 11/14/96

Date Received: _____

Company: Foth & VanDyke

Contract: mil. co.

Project #/Client: 96W17

Mailing Address: 1050 W. Park Place
2 Park Plaza, Suite 950
Milwaukee, WI 53224

Billing Address: _____
(if different)

Phone: 359-2500

FAX: 359-2519

LAB USE ONLY	Sample Identification	Analysis Requested: BETX	Cost	S.W.A.R. Preparation
	MC. TF. 6W	X		

HAZARDOUS WASTE DISPOSAL

- ☐ By Client
- ☒ By Lab*

* $10.00 Disposal Fee

TURN-AROUND TIME

Date Report Needed:

- ☐ Normal _____
- ☒ Rush _____

(Must be Approved by Lab)

SAMPLE TYPE

- ☐ Drinking Water
- ☐ Wastewater
- ☒ Groundwater
- ☐ Soil
- ☐ Sludge
- ☐ Solid Waste
- ☐ Oily Liquid Waste
- ☐ Hazardous Liquid Waste
- ☐ Other *(Specify)* _____

KNOWN OR POTENTIAL HAZARDS

- ☐ Flammable
- ☐ Skin Irritant
- ☐ Highly Toxic
- ☒ Other *(Specify)* Petroleum contaminated

(Rev. 3/90)

CHAIN OF CUSTODY RECORD

No.: 4229

Client: Milwaukee County
Project No.: 90M17
Sampling Site: Timmerman Airport
Sampler: Brian Ahlm

Packed by: BAH Seal #:
Seal Intact Upon Receipt by Sampling Co: ☐ Yes ☐ No
Condition of Contents:
Sealed for Shipping by:
Initial Contents Temp: 4 °C Seal #:
Seal Intact Upon Receipt by Laboratory: ☐ Yes ☐ No

Date	Time	Sample I.D.:/Description	Bottle Size / Preservative: 1 Liter Amber	Bottle Total	Sample Type	Lab Use Only	Remarks
11/14	1125	MC.55.C26.01SE	X	1	GMB		
↓	1151	MC.55.C26.02.NW	↓	↓	↓		
	1200	MC.55.C26.03.NE					
		[redacted]					
↓	1234	MC.55.C27.01.NW	↓	↓	↓		

Custody Transfers

	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
1.	Brian Ahlm	11/14/90	2pm	W. Blank	11/14/90	2 pm
2.						
3.						
4.						

Received for Laboratory:
MRG

Shipping Details

Method of Shipment: Personal Delivery
Condition of Contents:
Contents Temperature: 4 °C
ORTEK Project No.:

ORTEK
2496 W. Mason
Green Bay, Wisconsin 54303
Phone: 414/498-2222 Fax: 414/498-4067

ORTEK

2496 West Mason Street
P. O. Box 12435
Green Bay, WI 54307-2435
414/498-2222

Special Instructions or Comments:

ANALYSIS REQUEST FORM

Quotation #: _____

Purchase Order #: _____

Date Collected: 11/14/90

Date Received: _____

Company: Foth & VanDyke

Contract: mil Co.

Project #/Client: 90M17

Mailing Address: 10850 W. Park Place
2 Park Plaza, Suite 950
Milwaukee, WI 53224

Billing Address: _____
(if different)

Phone: 359-2500

FAX: 359-2519

LAB USE ONLY	Sample Identification	Analysis Requested: TCLP-6C	Cost	S.W.A.R. Preparation
	MC.SS.C26.01SE	X		
	MC.SS.C26.02NW			
	MC.SS.C26.03NE			
	MC.SS.C27.01NW			

HAZARDOUS WASTE DISPOSAL

- ☐ By Client
- ☒ By Lab*

* $10.00 Disposal Fee

TURN-AROUND TIME

Date Report Needed:

- ☐ Normal _____
- ☒ Rush _____

(Must be Approved by Lab)

SAMPLE TYPE

- ☐ Drinking Water
- ☐ Wastewater
- ☐ Groundwater
- ☒ Soil
- ☐ Sludge
- ☐ Solid Waste
- ☐ Oily Liquid Waste
- ☐ Hazardous Liquid Waste
- ☐ Other *(Specify)* _____

KNOWN OR POTENTIAL HAZARDS

- ☐ Flammable
- ☐ Skin Irritant
- ☐ Highly Toxic
- ☒ Other *(Specify)* Petroleum contaminated

(Rev. 3/90)

ATTACHMENT 3

Laboratory Results

Mac Donald Research Group, Inc.

1441 North Mayfair Road
Milwaukee, Wisconsin 53226

15 November 1990

Foth & Van Dyke
10850 W. Park Place Suite 950
Milwaukee, WI 53224

Project: Milwaukee Co.
Invoice #3326

Sample I.D.	TPH (ppm)	% Solid	Benzene (ppb)	Ethyl Benzene (ppb)	Toluene (ppb)	Xylenes o- (ppb)	m- (ppb)	p- (ppb)
ICSS 01 SE	1.991 (G)	87%						
ICSS 02 NW	2.612 (G)	87%						
ICSS 03 NE	0.148 (G)	84%						
ICSS 01 NW	0.167 (G)	88%						
ICTF GW			56.7	577.2	2784.3	1231.8	559.1	392.1

Limits of QUantitation:
Soil TPH 0.02ppm each
Water TPH 0.4ppb each
Lead 1ppm

Soil BETX 0.02ppm each
Water BETX 0.4ppb each
Chlorides 0.05mg/L

Water VOC's 0.4ppb each

Standard key: (G)-gasoline
(D)-diesel
(FO)-fuel oil
(O)-other, stated

H. S. MacDonald

Hector S. MacDonald
Analyst

Department of Natural Resources

Tinneman Avgas

LEAKING UNDERGROUND STORAGE TANK (Case Tracking)
Form 4400-146 3-91

Site Name: ~~Tinneman Airport~~
9305 W. Appleton Ave.

PMN: _____ FID: 241406660

Proj Mgr: J. Feeney

Support Person: _____

District: SED County: Milwaukee

Address: _____

Legal Municipality: Milw.

Legal Desc: ____1/4 ____1/4 Sec ____T ____R ____E/W

Date of Initial Contact: 12/20/91 Date of Letter: 1/3/92 Date Site Closure Approved: __/__/__

Status
_____ 1 = State Lead
__X__ 2 = RP Lead
~~1/3/92~?~~

Priority Screening
_____ 1 = High
__X__ 2 = Medium
_____ 3 = Low
_____ 4 = Unknown

Score: ____.____

Funding Source
__X__ 1 = RP
_____ 2 = LTF
_____ 3 = EF
_____ 4 = SF
_____ 5 = None
_____ 6 = Other (Describe In Comments)
_____ 7 = EPA (Emergency Resp)

PECFA Review Requested
(√) _____ Yes _____ No

Date PECFA Request Received
(mm/dd/yy) ____/____/____

Lust Trust Eligible
__X__ 1 = Federal
_____ 2 = Non-Federal

CASE STATUS

(√) As Appropriate	Date Initiated (mm/dd/yy)	Date Completed (mm/dd/yy)	Comments
_____ No Action Taken (N)			
_____ Emergency (E)	____/____/____	____/____/____	
_____ Emergency Response (R)	____/____/____	____/____/____	
_____ Field Investigation (I)	____/____/____	____/____/____	
_____ Remedial Action (C)	____/____/____	____/____/____	
_____ Long Term Monitoring (L)	____/____/____	____/____/____	

(√) All Appropriate	Known Impacts (√)	Potential Impacts (√)
_____ Fire/Explosion Threat (1)		
_____ Contaminated Private Well (2)		
_____ Contaminated Public Well (3)		
_____ Groundwater Contamination (4)		✓
✓ Soil Contamination (5)	K	
_____ Other: (6) _____		

Substances (√)
_____ Leaded Gas(1)
_____ Unleaded Gas (2)
_____ Diesel (3)
_____ Fuel Oil (4)
_____ Unknown Hydrocarbons (5)
__X__ Other (8) Aviation Fuel
_____ VOCS (6)
_____ Pesticide (7)
Quantity Discharged _____

Responsible party Milw. County
Name: Robert L. Knighten
Address: Milw. County - Dept. of Public Works
Engineering, Environmental & Energy Services
Courthouse annex Rm 314,
Telephone: ____/____
(list additional on separate list and attach.)
907 N. 10th St., Milw, WI 53233
414-278-4891

Consultant: Foth & Van Dyke Assoc.
Contact: Brian Hahn
Address: 2 Park Plaza, Suite 950
10850 W. Park Place, Milw.
Telephone: 414 / 359-2500 53224
Amount Committed: $____.____
Amount Spent: $____.____
(list additional on separate list and attach.)

ENFORCEMENT ACTION TAKEN

01 = Inf. Contact, Resp Initiated
02 = RP Letter, Resp Initiated
03 = NTC of Non Compliance
04 = Inf. Enf. Conf, Resp Initiated
05 = Follow-up Enf. Conf, Resp Initated
06 = Inspection Letter
07 = Response Received
08 = Adequate Response
09 = Progress Being Made
10 = Defer Enforcement
11 = Close Out
12 = Recommend NFA
13 = FWD to Secondary Enf
14 = Notice of Violation
15 = Formal Enf Conf
16 = Enf Conf. Letter
17 = Admin. Order Proposed
18 = Admin. Order Final
19 = Admin. Order Modified
20 = Admin. Order Cancelled
21 = Contest Case Hearing
22 = Draft Referral
23 = Referral to DOJ
24 = Referral to DA
25 = Referral to EPA
26 = Continuing Violation
27 = See Next Violation
28 = Site Inspection
99 = Other Action: _____

ACTION (code from above)	DATE (mm/dd/yy)	COMMENT
02	1/3/92	RP Letter
_____	____/____/____	

(list additional on separate list and attach.)

LUST CASE PRIORITY SCREENING WORKSHEET

HIGH FACTORS: (DEFINITION: Any case which presents an actual threat to human health, or has a high potential of causing a threat to human health and property; and/or any case which has caused or has a high potential of causing substantial impacts to the soil waters and air of the State of Wisconsin.)

____ Contaminated private or public well >NR140 enf. std.
____ Explosive or toxic vapors in structures
____ Threat of fire

HIGH OR MEDIUM FACTORS: (write in choice of high or medium)
____ Floating product (medium if no receptors within 1 mile)
____ Known gw contamination (private or public well <140 enf. std.)
____ Impacted surface water - -wetland, trout stream, etc. impacted
____ Saturated soil contamination

MEDIUM FACTORS: (DEFINITION: Any case which does not appear to be an immediate threat to human health or vital natural resources but which shows levels of contamination that may cause substantial environmental impacts if left unaddressed.)

____ Moderate (e.g. 100 - 500 ppm TPH) soil contamination with moderate potential for impacting groundwater.
____ Impacted surface water - - no critical habitat threats.

LOW FACTORS: DEFINITION: Any case where contamination has been documented, but which presents limited potential for any immediate threat to human health and vital natural resources.)

____ Soil contamination (e.g. less than 100 ppm TPH) which appears to have a limited potential for impacting groundwater.
____ Initial remedial action has substantially reduced environmental threat.

UNKNOWN FACTOR: (DEFINITION: Any case where some indication of contamination is present, but due to incomplete or inaccurate information the level of threat to human health or the environment can not be assessed at this time.)

____ Inadequate information to assign a high, medium, or low ranking.

OVERALL RANKING: The screening rank for the site along with the date of ranking. This may be updated when additional information is received. Special circumstances for a particular case may be taken into account in the comment section. The District LUST coordinator may independently set the ranking of a site based upon "special circumstances."

Circle one & date, indicate in priority screening box opposite side _____ HIGH _____ MEDIUM _____ LOW _____ UNKNOWN

Overall Site Comment: _____

NUMERICAL LUST SCORING WORKSHEET (Complete for LUST cases ranked HIGH)

1. GROUNDWATER & SOILS: (circle one)

POINTS	
20	Municipal Well
18	>5 private wells
16	4 - 6 private wells
14	2 - 3 private wells
12	1 private well

_____ SCORE

POINTS	
8	Soil & gw within 1200' of a public well
6	Soil & gw within 1200' of one or more private wells
4	GW contamination, no wells within 1200'
2	Soil contamination

*For purposes of this scoring, private well includes any non-municipal water supply system.

2. EXPLOSIVE OR TOXIC VAPORS: (circle one)

POINTS CONFIRMED	POTENTIAL	
	10	Explosive levels in a residence or building
	8	Explosive levels in a sewer or structure
12	6	Toxic levels in a residence or building

NOTE: Explosive levels determined to be >20% LEL as per an explosivity meter; toxicity levels are based on OSHA permissible exposure limits (PEL)

_____ SCORE

3. HYDROGEOLOGIC SETTING: (circle one)

POINTS	
12	Permeable stratigraphy (gravel, sand, fractured bedrock or utilities capable of intercepting and directing flow) and groundwater within 25 feet of the ground surface.
10	Permeable stratigraphy and groundwater greater than 25 feet below ground surface.
8	Moderately permeable stratigraphy (silty sands, silty gravel, clayey sands) and groundwater within 25 feet of ground surface .
6	Moderately permeable stratigraphy and groundwater greater than 25 feet below ground surface.
4	Impermeable stratigraphy (silt, clayey silt, sand clays) and groundwater within 25 feet of ground surface.
2	Impermeable stratigraphy and groundwater greater than 25 feet below ground surface.

_____ SCORE

4. TYPE OF PRODUCT: (circle one)

POINTS	
8	Gasoline, mixture of gasoline and other products, other light petroleum products.
6	Diesel, fuel oil.
2	Bunker oil, other heavy oils or crude fractions.

_____ SCORE

List Additional Responsible Party Names Here:

Responsible Party Name: ______________________ Responsible Party Name: ______________________

Address: ______________________ Address: ______________________

______________________ ______________________

Phone: _____ / ______________ Phone: _____ / ______________

Responsible Party Name: ______________________ Responsible Party Name: ______________________

Address: ______________________ Address: ______________________

______________________ ______________________

Phone: _____ / ______________ Phone: _____ / ______________

List Additional Consultants Here:

Consultant: ______________________ Consultant: ______________________

Contact: ______________________ Contact: ______________________

Address: ______________________ Address: ______________________

______________________ ______________________

Phone: _____ / ______________ Phone: _____ / ______________

Amount Committed: $_______._____ Amount Spent: $_______._____ Amount Committed: $_______._____ Amount Spent: $_______._____

List Additional Enforcement Actions Here:

Action Code	Date (mo/day/yr)	Comment
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________
_____	____ / ____ / ____	______________________

Additional Site Comments:

12/19/91

Two 10,000 gal. Aviation Fuel USTs

Soil Samples

Field readings 710 ppm - 3406 ppm

Staining in excavation bottom (gray)

Strong fumes

gw (unknown) because

there was a broken sewer line.

Department of Natural Resources

LEAKING UNDERGROUND STORAGE TANK (Case Tracking)
Form 4400-146 Rev. 2-93

UID Number: | **FID Number:** 241-4066-0 | **PMN Number:**

County: 41
Site Name: Timmerman C26, C27
Address: 9305 W. Appleton

Municipality:
Legal Descript.: ___ 1/4 ___ 1/4 sec. ___ T ___ N R ___ (E/W)
Lat.: ___ Long.: ___

Initial Contact Date: ___/___/___
Date RPLetter Sent: ___/___/___
Date Closure Approved: 4/15/93

Person/Firm Reporting:
Phone Number: ( )

Priority Screening
___ 1 = High
___ 2 = Medium
X 3 = Low
___ 4 = Unknown

Scoring Criteria
1. ___
2. ___
3. ___
4. ___
5. ___

Score: ___ Init.: ___ Date: ___/___/___

Funding Source
___ 1 = RP
___ 2 = LTF
___ 3 = EF
___ 4 = Other

Effective Date
___/___/___
___/___/___
___/___/___
___/___/___

LUST Trust Eligible
___ 1 = Federal
___ 2 = Non-Federal

Case Status

	Start Date	End Date
___ (F) Free Product Removal	___/___/___	___/___/___
___ (E) RP Emergency Response	___/___/___	___/___/___
___ (R) LTF Emergency Response	___/___/___	___/___/___
___ (L) Long Term Monitoring	___/___/___	___/___/___

Responsible Party
Contact Person: Milw. County
Company Name:
Address:
Phone Number: ( )
CC's:

Impacts
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

Consultant
Contact Name:
Company Name::
Address:
Telephone: ( )

Substances	# Tank(s)	Size
___ (1) Leaded Gas		
X (2) Unleaded Gas	1	8K
X (3) Diesel	1	8K
___ (4) Fuel Oil		
___ (5) Unkwn Hydrocrbn		
___ (8) Other		
___ (12) Waste Oil		

PRIORITY SCREENING WORKSHEET

HIGH FACTORS: (DEFINITION: Any case which presents an actual threat to human health, or has a high potential of causing a threat to human health and property; and/or any case which has caused or has a high potential of causing substantial impacts to the soil, waters and air of the State of Wisconsin).

EMERGENCY FACTORS:

___ Contaminated private or public well >NR 140 enf. std.
___ Explosive or toxic vapors in structures
___ Threat of fire

HIGH FACTORS:

___ Floating product (including sheen)
___ GW contamination (>140 enf. std.)
___ Impacted surface water - - wetland, trout stream, etc. impacted
___ Saturated soil contamination posing a risk to groundwater

MEDIUM FACTORS: (DEFINITION: Any case which does not appear to be an immediate threat to human health or vital natural resources but which shows levels of contamination that may cause substantial environmental impacts if left unaddressed.)

___ Moderate soil contamination with potential for impacting groundwater.
___ Impacted surface water - - no critical habitat threats.
___ Groundwater contamination >NR 140 PAL.

LOW FACTORS: (DEFINITION: Any case where contamination has been documented, but which presents limited potential for immediate threat to human health and vital natural resources.)

___ Soil contamination which appears to have a limited potential for impacting groundwater.
___ Initial Remedial action has substantially reduced environmental threat.

UNKNOWN FACTORS: (DEFINITION: Any case where some indication of contamination is present, but due to incomplete or inaccurate information the level of threat to human health or the environment can not be assessed at this time.)

___ Inadequate information to assign a high, medium, or low ranking.

NUMERICAL LUST SCORING WORKSHEET

1. GROUNDWATER & SOILS:

POINTS:		Points:	
20	Municipal well impacted	10	Major soil and/or gw >ES within 1200' of a public well
18	>6 private wells impacted	8	Major soil and/or gw >ES within 1200' of one or more private wells
16	4 - 6 private wells impacted	6	Groundwater contamination >ES
14	2 - 3 private wells impacted	4	Groundwater contamination <ES
12	1 private well impacted	2	Soil contamination

For purposes of this scoring, private well includes any non-municipal water supply system (e.g. non-community and other than municipal)

2. EXPLOSIVE OR TOXIC VAPORS:

POINTS: CONFIRMED	POTENTIAL	
20	10	Explosive levels in a residence or building
16	8	Explosive levels in a sewer or other confined space
12	6	Toxic levels in a residence or building

NOTE: Explosive levels determined to be >20% LEL as per an explosivity meter, toxicity levels are based on OSHA permissible exposure limits (PEL's)

3. SURFACE WATER IMPACTS:

POINTS: CONFIRMED	POTENTIAL	
14	7	Visible sheen or product on sensitive surface water environment (e.g. wetland, trout stream)
10	5	Visible sheen or product on non-sensitive surface water area.
6	3	Exceedance of NR 102, 103 or 104 surface water quality standards.

Request assistance from District Water Resources staff in evaluating surface water impacts.

4. HYDROGEOLOGIC SETTING:

Points:

12 Permeable stratigraphy (gravel, sand, fractured bedrock or utilities capable of intercepting and directing flow) and groundwater within 25 feet of the ground surface.
10 Permeable stratigraphy and groundwater greater than 25 feet below ground surface.
8 Moderately permeable stratigraphy (silty sands, silty gravel, clayey sands) and groundwater within 25 feet of ground surface.
6 Moderately permeable stratigraphy and groundwater greater than 25 feet below ground surface.
4 Low permeability stratigraphy (silt, clayey silt, sand clays) and groundwater within 25 feet of ground surface.
2 Low permeability stratigraphy and groundwater greater than 25 feet below ground surface.

5. TYPE OF PRODUCT:

POINTS: FREE PRODUCT	DISSOLVED PRODUCT	
12	8	Gasoline, mixture of gasoline and other products, other light petroleum products.
10	6	Diesel, fuel oil.
6	2	Bunker oil, other heavy oils or crude fractions.

CASE STATUS SUMMARY

UID: ____________________ SITE NAME: ____

03 = NTC of Non Compliance	21 = Contest Case Hearing	34 = Tnk Cls/SA Rpt Appv'd	40 = RA Work Plan Appv'd	46 = Form 4 Denied
04 = Enf. Conference	23 = Referral to DOJ	35 = SI Work Plan Recv'd	41 = RA Report Recv'd	47 = PECFA Reimbursement
14 = Notice of Violation	30 = Notice to Proceed	36 = SI Work Plan Appv'd	42 = RA Report Appv'd	48 = Free Product Recovery
18 = Admin.. Order Issued	31 = Tnk Cls/SA Work Plan	37 = SI Report Recv'd	43 = Qrtly/Mthly Status Rpt	49 = Alternate Water Supplied
19 = Admin.. Order Modified	32 = Tnk Cls/SA WP Appv'd	38 = SI Report Appv'd	44 = Form 4 Received	
20 = Admin. Order Canceled	33 = Tnk Cls/SA Rpt Recv'd	39 = RA Work Plan Recv'd	45 = Form 4 Approved	

60 = ______	68 = ______	76 = ______	84 = ______	92 = ______
61 = ______	69 = ______	77 = ______	85 = ______	93 = ______
62 = ______	70 = ______	78 = ______	86 = ______	94 = ______
63 = ______	71 = ______	79 = ______	87 = ______	95 = ______
64 = ______	72 = ______	80 = ______	88 = ______	96 = ______
65 = ______	73 = ______	81 = ______	89 = ______	97 = ______
66 = ______	74 = ______	82 = ______	90 = ______	98 = ______
67 = ______	75 = ______	83 = ______	91 = ______	99 = ______

CASE STATUS UPDATES:

Action Code	Date Received/Sent	Compliance Due Date	Compliance Achieved	Date Entered In Tracking
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___
______	___/___/___ (R/S)	___/___/___	___/___/___	___/___/___

REMARKS: